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VOL. 87 NO. [illegible]

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textile bulletin

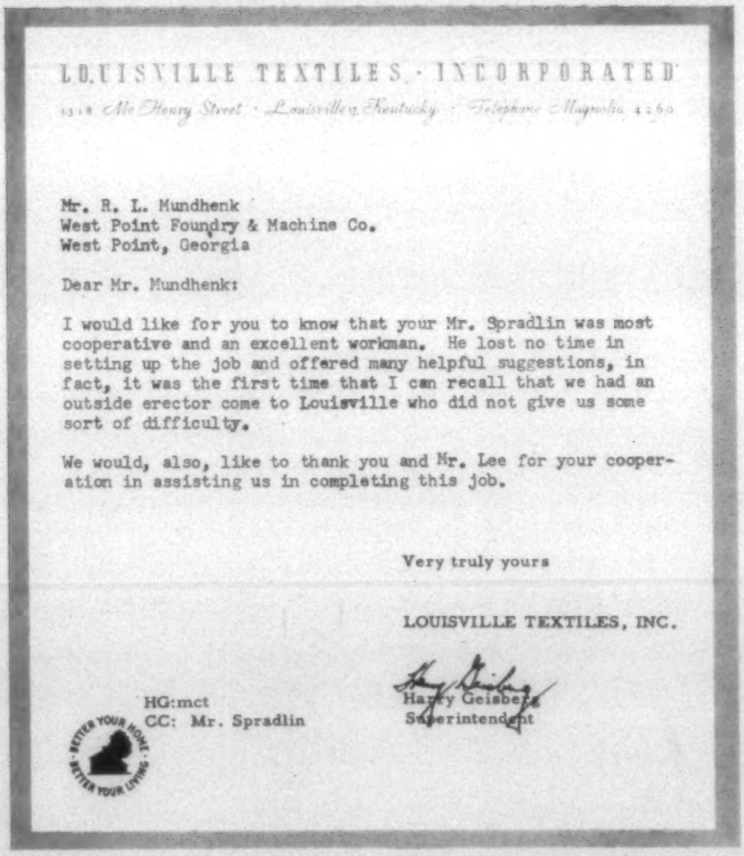
MARCH • 1961

Our Golden Anniversary

Child slavery, motor wagons, revolving looms, the dangers of shuttle kissing—these were some of the topics folks were airing back in 1911. For a light look at those days, we offer the memoirs of a journal, beginning on Page 57.

TEXTILE BULLETIN is published monthly by Clark Publishing Co., 218 West Morehead St., Charlotte 6, N.C. Subscription $1.50 per year in advance, $2 for two years. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

BPA NBP



LOUISVILLE TEXTILES • INCORPORATED
1318 Mc Henry Street • Louisville 17, Kentucky • Telephone Magnolia 4260

Mr. R. L. Mundhenk
West Point Foundry & Machine Co.
West Point, Georgia

Dear Mr. Mundhenk:

I would like for you to know that your Mr. Spradlin was most cooperative and an excellent workman. He lost no time in setting up the job and offered many helpful suggestions, in fact, it was the first time that I can recall that we had an outside erector come to Louisville who did not give us some sort of difficulty.

We would, also, like to thank you and Mr. Lee for your cooperation in assisting us in completing this job.

Very truly yours

LOUISVILLE TEXTILES, INC.

Harry Geisberg
Harry Geisberg
Superintendent

HG:mct
CC: Mr. Spradlin

BETTER YOUR HOME • BETTER YOUR LIVING

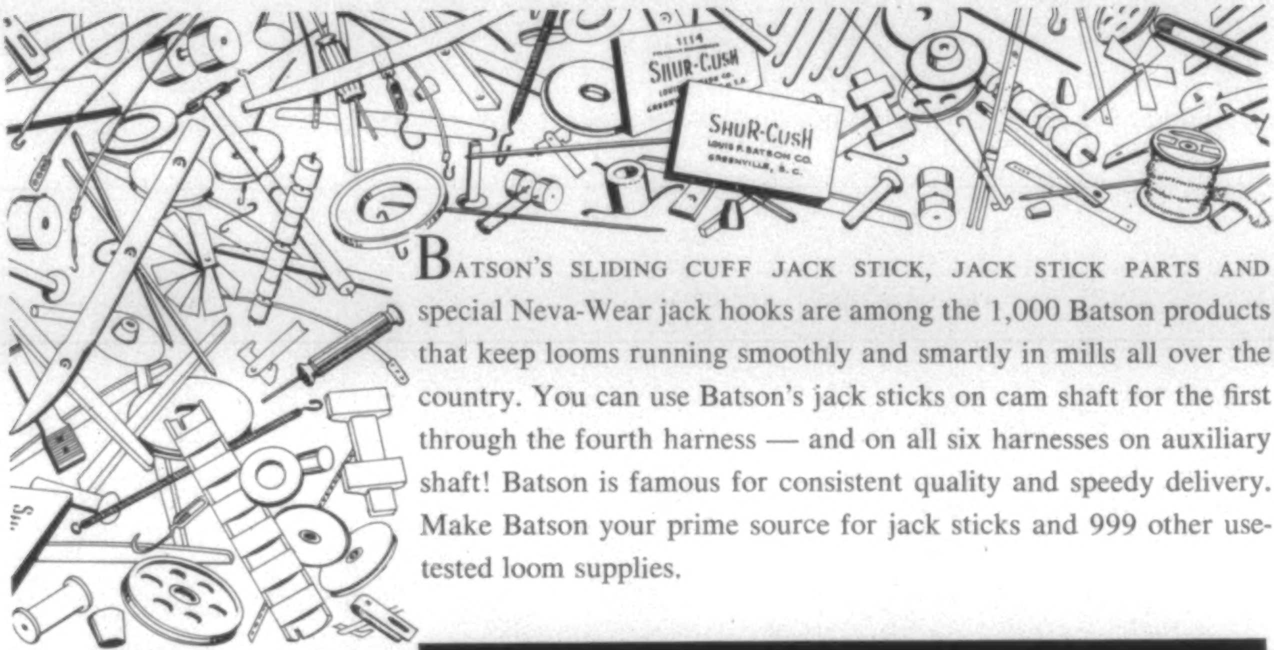
Everywhere they go West Point's erectors leave satisfied customers!

This is understandable, when you realize that all erectors from the West Point Foundry and Machine Company are craftsmen. Years of experience and continuous training have equipped these men with the technical "know-how" necessary for doing top-quality work. They approach assignments with the same energy, enthusiasm, and ingenuity used by West Point's engineers in making and keeping the PACESETTER SLASHER the performance leader in its field.

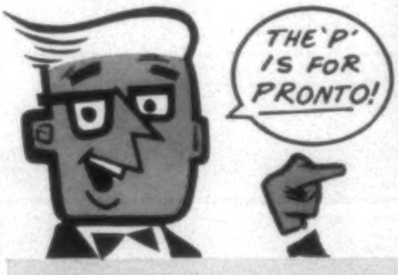
Feature for feature
West Point's PACESETTER
SLASHER sets the pace
in quality and production

West Point
Foundry & Machine Co.

West Point, Georgia


SHUR-CUSH
SHUR-CUSH
LOUIS P. BATSON CO.
GREENVILLE, S. C.

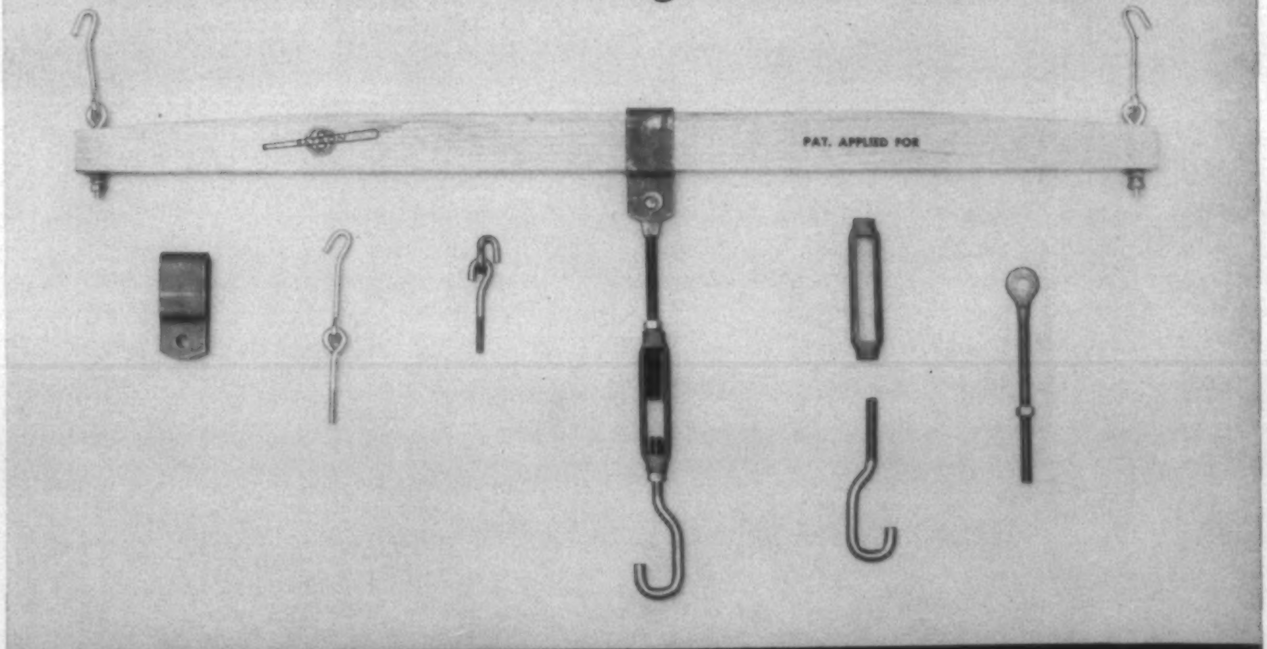
BATSON'S SLIDING CUFF JACK STICK, JACK STICK PARTS AND special Neva-Wear jack hooks are among the 1,000 Batson products that keep looms running smoothly and smartly in mills all over the country. You can use Batson's jack sticks on cam shaft for the first through the fourth harness — and on all six harnesses on auxiliary shaft! Batson is famous for consistent quality and speedy delivery. Make Batson your prime source for jack sticks and 999 other use-tested loom supplies.


THE 'P' IS FOR PRONTO!

Louis P. Batson Company

Box 3978 • Park Place • Greenville, S.C.

The BATSON Sliding Cuff Jack Stick



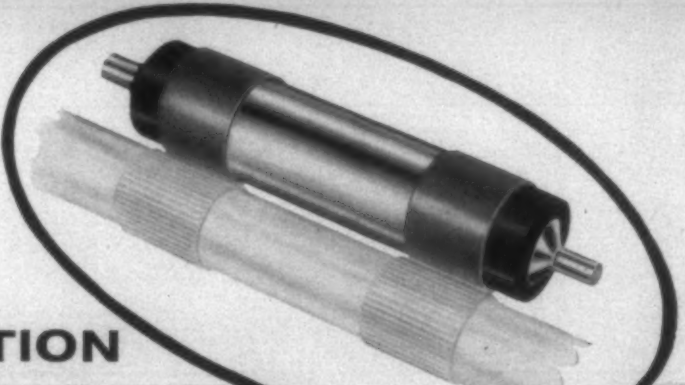
ONE OF A THOUSAND **Batson** USE-TESTED PARTS

NEW MagneDraft

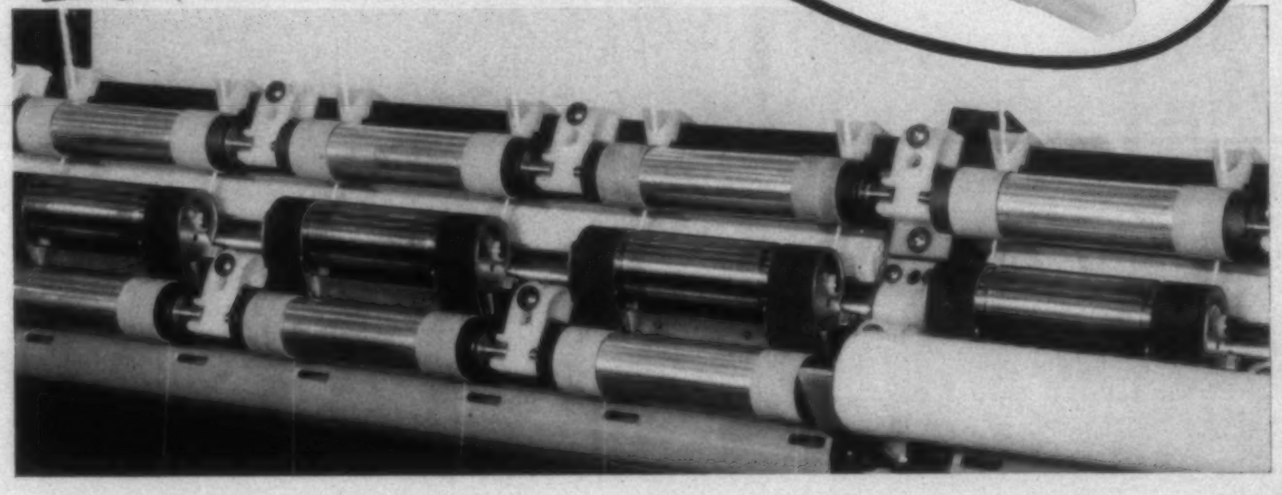
pressure system for drafting

by SACO-LOWELL

NO CAP BARS
NO SADDLES
NO STIRRUPS
NO LEVERS
NO SPRINGS
NO WEIGHTS



***Plus* NO LUBRICATION**



The MagneDraft Pressure System by Saco-Lowell uses the force of magnetic attraction to produce required pressures—does away with all auxiliary weighting equipment. Most important of all, the MagneDraft System requires NO LUBRICATION above the roller beam.

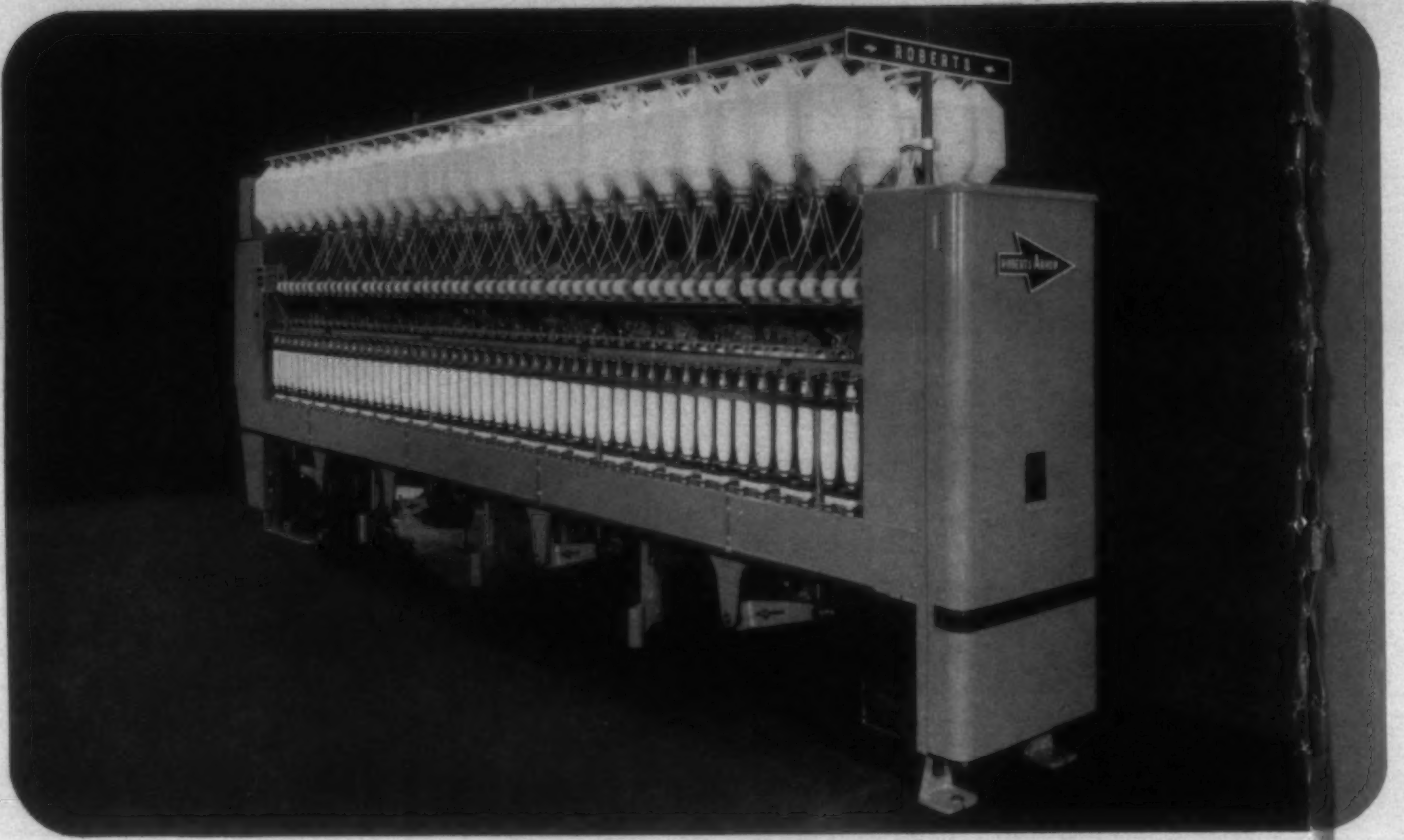
- NO LUBRICATION ABOVE THE BEAM
- EXCEEDINGLY FEW COMPONENT PARTS
- EFFICIENT CLEANING ACTION OF THE CLEARERS
- ELIMINATION OF PROBLEM OF WORN NECKS ON STEEL ROLLS

MAKES ANY DRAFTING ELEMENT WITH MAGNEDRAFT THE CLEANEST, MOST EFFICIENT EVER DEVELOPED

SACO-LOWELL SHOPS

Textile Machinery Division

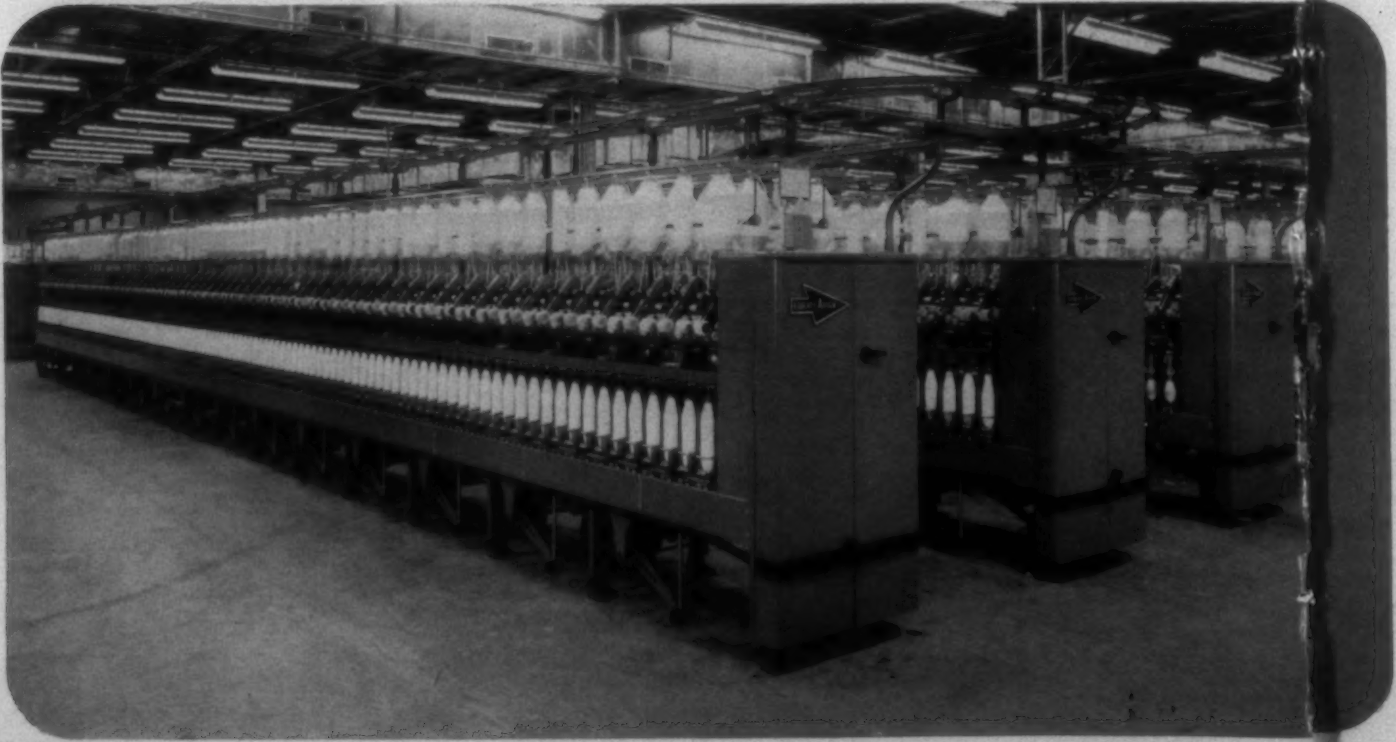
General Sales Offices — GREENVILLE, SOUTH CAROLINA
Branch Sales Offices — Atlanta, Ga., Charlotte & Greensboro, N. C., Greenville, S. C., Saco, Me.



ARROW Model M-1 (above) for cotton system, Model WM-1 for worsted system. 25 inches wide.

ROBERTS ARROW SPINNING for both cotton system and long fiber system yarn spinning for natural and synthetic fibers and blends. High speed, all ball bearing, big package Arrow Spinning Frames in 25-inch or 36-inch width. Exceptional flexibility and simplicity of operation in the manufacture of improved quality yarns at reduced costs and modest initial investment.

ARROW Model WM-2 (below) for worsted system, Model M-2 for cotton system. 36 inches wide.

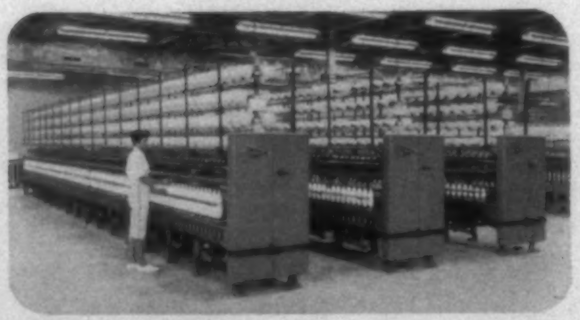


ROBERTS

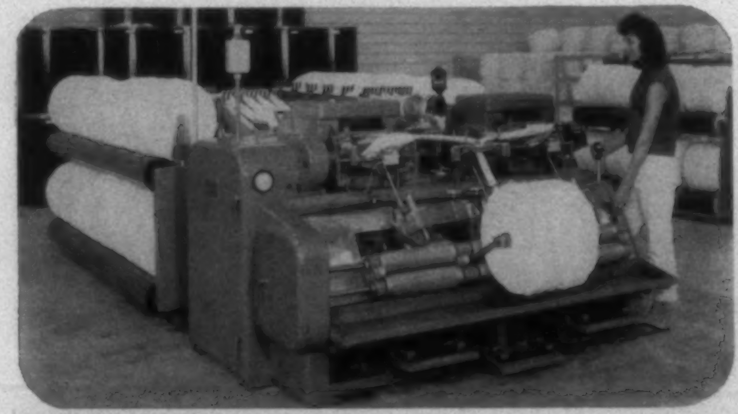
Yarn Making Machinery

FOR COTTON, WORSTED, OR LONG FIBER SYSTEMS

ROBERTS ROVING FRAMES are ball bearing rebuilt and feature all-new heavy duty ball bearing Roberts Double Apron Drafting Systems for cotton, short staple or long fiber synthetics, worsted and blends. 10x5 and 12x7 packages. Provisions for double headed spools.



ROBERTS TWISTERS for plying yarns are completely ball bearing equipped and designed for high speed ring twisting operations. 25- or 36-inch frames. Up to 4-inch rings and 12-inch bobbins. Package weights 1¼ pounds on cotton, ¾ to 1 pound on worsted.



ROBERTS-TEMATEX worsted system preparatory machines, including ParaBlenders, ParaDrafters and AutoEveners, are rugged, high performance machines for pinning, parallelizing, drafting and blending worsted and synthetic fibers prior to roving and spinning, and in top making plants. AutoEvener automatically and instantaneously corrects delivered sliver weight to within plus or minus 1%.

Simplicity of design, rugged construction and high speed ball bearing operation are the hallmarks of all Roberts Company machinery. Roberts also supplies rebuilt spinning frames and modernization changeovers for mills' existing machinery.

ROBERTS COMPANY

ROBERTS COMPANY (home office), Sanford, North Carolina
ROBERTS COMPANY, S.A., Piazza Missori 3, Milano, Italy
HOBOURN-ROBERTS COMPANY, LTD., Burton-On-Trent, Staffordshire, England
ROBERTS COMPANY DE MEXICO, S.A., Reforma 915A, Puebla, Pue., Mexico
ROBERTS COMPANY, 450 Seventh Avenue, New York 1, N. Y.

costs
come
down

with the CARTER "Supreme" traveler

yarn
quality
goes
up

Yes . . . you pay more for Carter's "Supreme" plated traveler, but you get profit-performance that justifies the name. Problems of rust—nep control—excessive traveler changes and down time . . . are met and solved with the cost-cutting "Supreme" traveler. Pioneered by our own metallurgical laboratories . . . incorporating all of the traditional CARTER craftsmanship and quality—the "Supreme" traveler makes a material contribution to the production of finer, stronger yarn—made and sold . . . *profitably!*

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BOYCE WEAVERS KNOTTER GASTONIA, NORTH CAROLINA

Get peak cleaning efficiency on frames, underframes, overhead and alley areas with

COMPLETE COVERAGE FEATURES

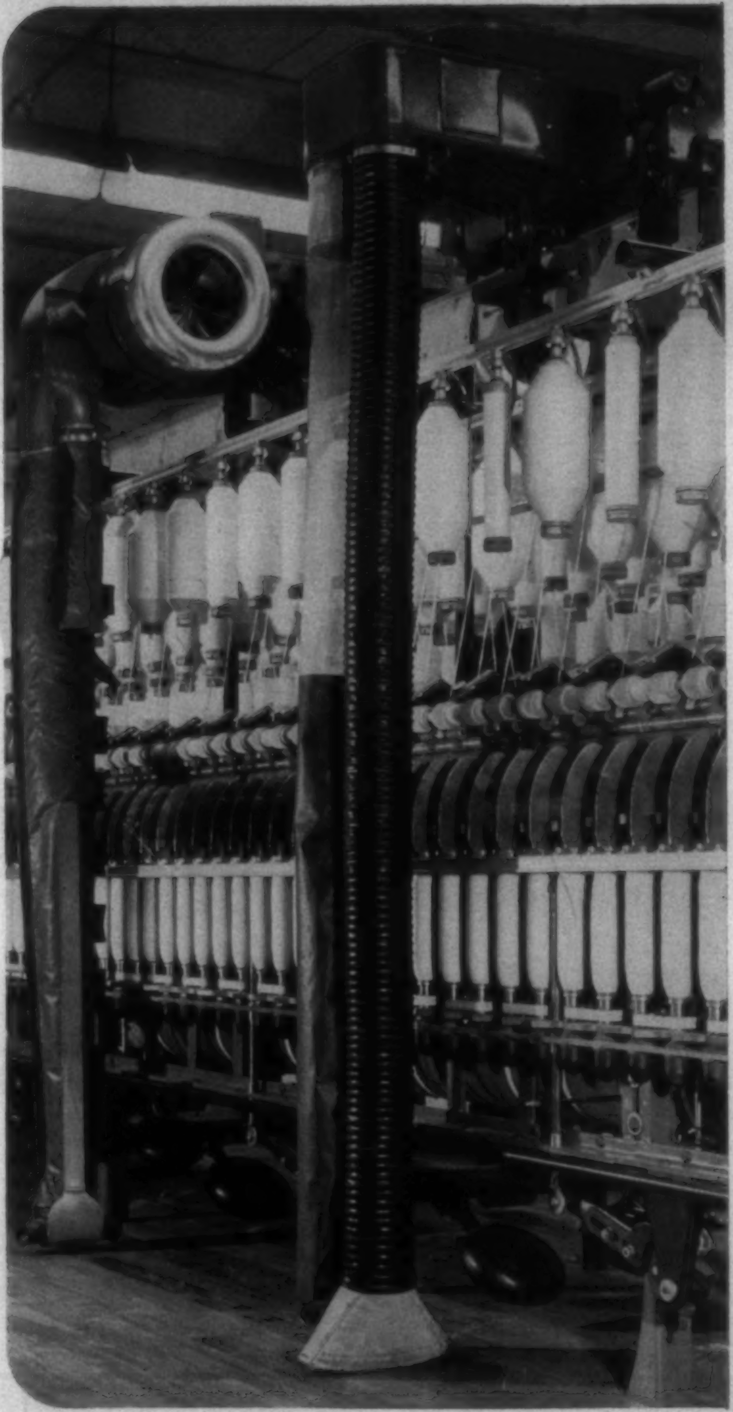
of CROSS-JET FRAME CLEANER

and VACU-PAK FLOOR SWEEPER

with automatic "Stop and Go" protection

Sweeper automatically stops on contact—then automatically re-starts when free of obstruction.

1. Provides protection to frame and spindles from trunk swinging free of obstacles and back into frame.
2. Provides protection for operator to work efficiently without interruption by traveling trunk.
3. Provides protection against damage to trunk by obstacles in its path.
4. Provides protection against accidents and operating time loss.



Bahnson

AIR-O-MATION

THE BAHNSON COMPANY · WINSTON-SALEM, N. C.

Robert Holmes, Overseer of Spinning at Standard-Coosa-Thatcher's Piedmont, Ala., plant examines yarn quality with Armstrong representative C. H. Cooper. Frame has double-apron drafting system equipped with Accotex NO-764 cots and NO-7876 aprons.

Your Armstrong man can help you get maximum production of quality yarn

When you specify Accotex roll covers and aprons, you get more than products to help you turn out high-quality yarn. You get the benefit of the specialized training and experience of your Armstrong man.

Whether you are faced with a high lap-up rate, excessive eyebrowing, yarn irregularities—or more routine problems of selection, installation, and maintenance of roll covers—your Armstrong representative will be able to make dependable suggestions

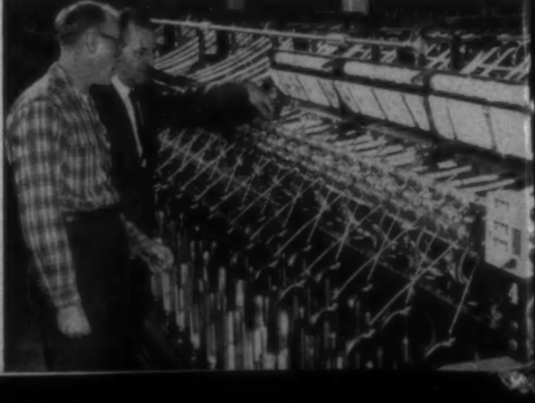
One thing that helps your Armstrong man in solving roll covering and apron problems is the wide range of materials in the Accotex line. Another is his interest in how these products perform—as shown, for example, in these pictures of Chet Cooper working with the Standard-Coosa-Thatcher personnel at Piedmont, Alabama.

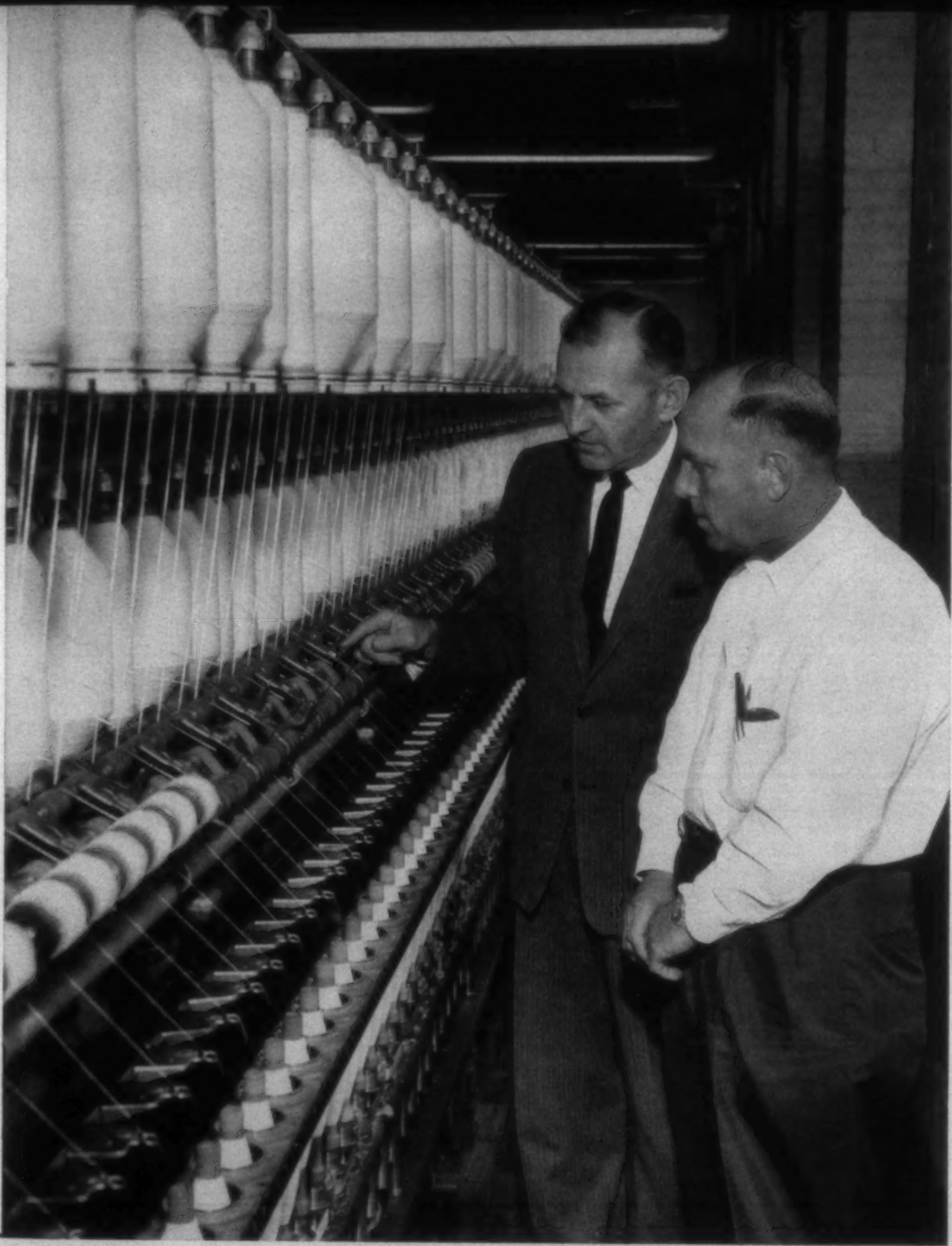
Your Armstrong man can be a valuable ally in getting maximum production of quality yarn. Call him in on any roll cover or apron problem. Or write Armstrong Cork Company, 6503 Davis Avenue, Lancaster, Pennsylvania.

J. T. Formby, Assistant Superintendent of Standard-Coosa-Thatcher plant, discusses characteristics of new Accotex cot with Cooper.

J. T. Fuqua, Overseer of Carding, checks performance of comber draw box rolls (Accotex J-490 and NC-727) with Chet Cooper.

Mr. Fuqua and Mr. Cooper look over roving frame equipped with Accotex NO-764 anti-static cots and new, super-flexible NO-7876 aprons.

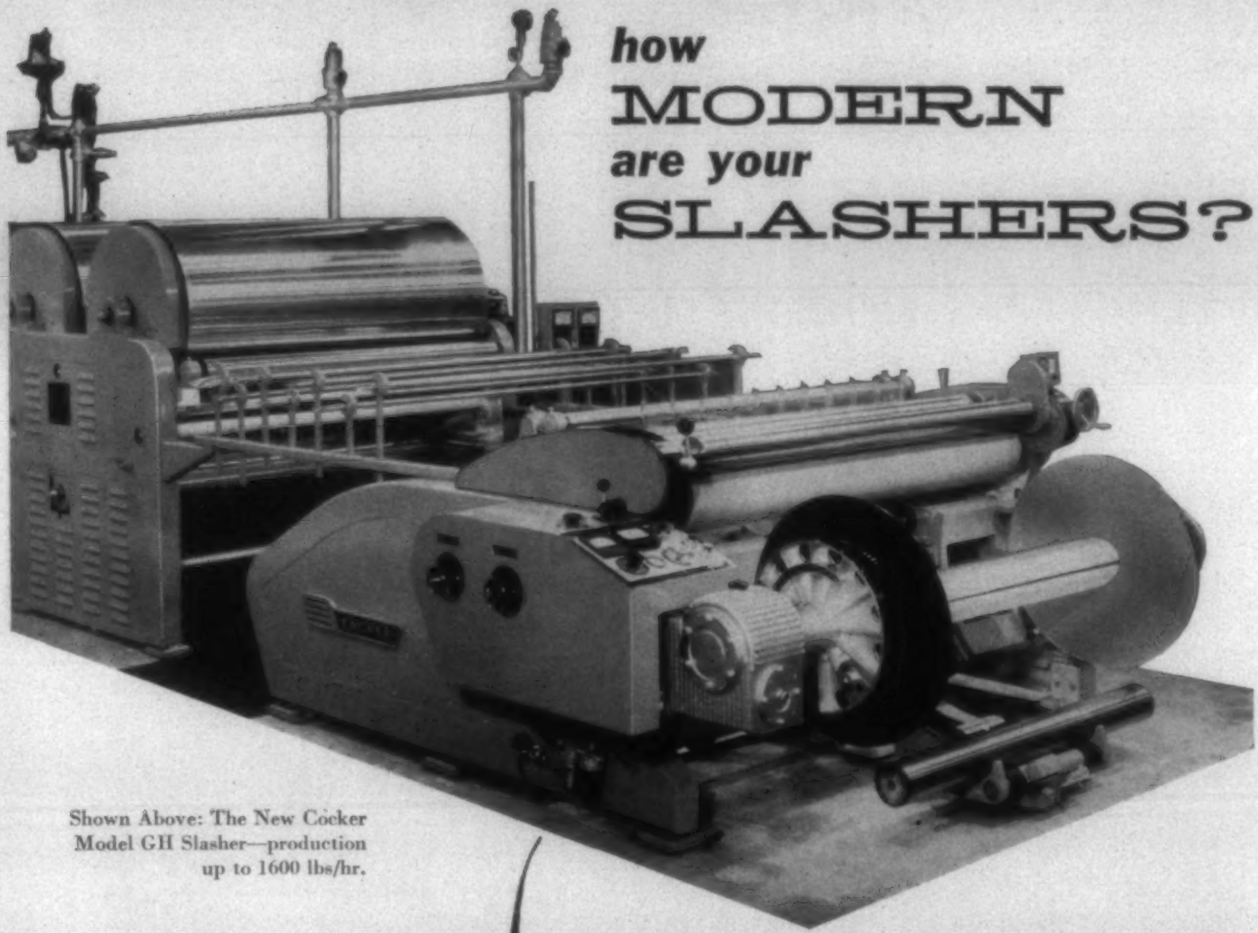




Charlie Howren is in charge of the roll shop. Two Armstrong model "J" buffing machines are part of the shop equipment.

Armstrong

ACCOTEX COTS AND APRONS



how
MODERN
are your
SLASHERS?

Shown Above: The New Cocker Model GH Slasher—production up to 1600 lbs/hr.

Most of the important improvements on slashers were first introduced by Cocker. Many of them have since been adopted by others, but many valuable features are still exclusive on Cocker equipment. These features enable mills to produce more and better beams at lower costs. Here are some of them.

*Pat. Applied For

TELESCOPING TORQUE TUBE DRIVE*

A highly efficient and greatly simplified drive which eliminates troublesome belts, chains, sprockets, and projecting spindles. Costs less to buy and less to operate.

Timing belt drive to calender rolls to eliminate lubrication problems.
Quick release driving head.
Rapid traverse carriage for quick and easy doffing.
Micrometer adjustment for beam width.
100 tooth double sprocket and chain drive on cylinder section.
Selecto-Lift calender rolls and compensating ironing compressor.

These and many other modern features always found first on Cocker Slashers. The most modern in the World—and your best buy. Write for full information today.

COCKER MACHINE & FOUNDRY COMPANY

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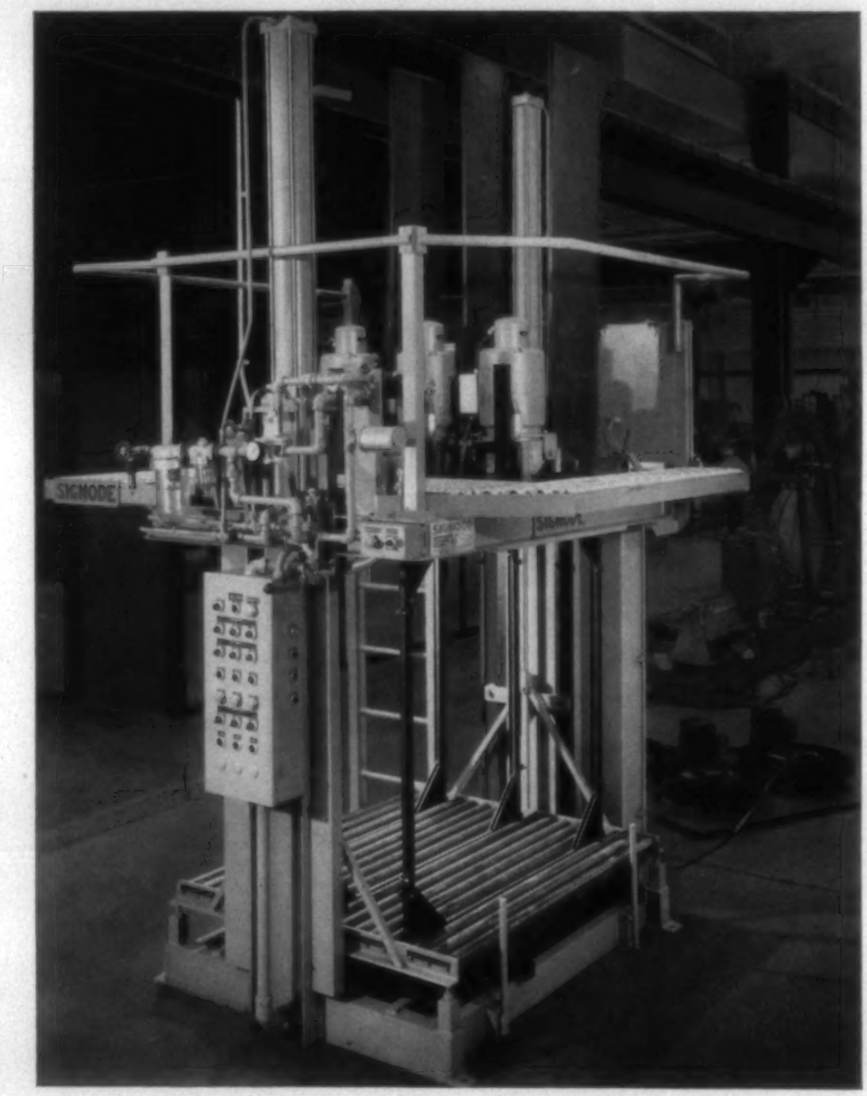
WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Looking for
decided fastness advantages
on acrylics?

Geigy now offers a complete range of basic Maxilon® dyestuffs specifically designed for acrylic fibers, possessing superior fastness properties.

Geigy Dyestuffs

For automatic production line packaging of textiles…



New Signode Texomatic compression strapping machine

The Texomatic is designed specifically for the textile industry with a compression capacity of 2,000 pounds. It is powered by three M-20 power strapping units that simultaneously and automatically feed, tension and seal three straps. Each of these 3-horsepower units is powerful enough to prevent overloading at fast speeds and high strap tensions. Even the conveyor is powered. All the operator does is push one button to compress and strap, another to convey the package.

For further information on the Signode Texomatic, call the Signode representative near you or write:

SIGNODE
STEEL STRAPPING CO.
2665 North Western Avenue • Chicago 47, Illinois
Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide
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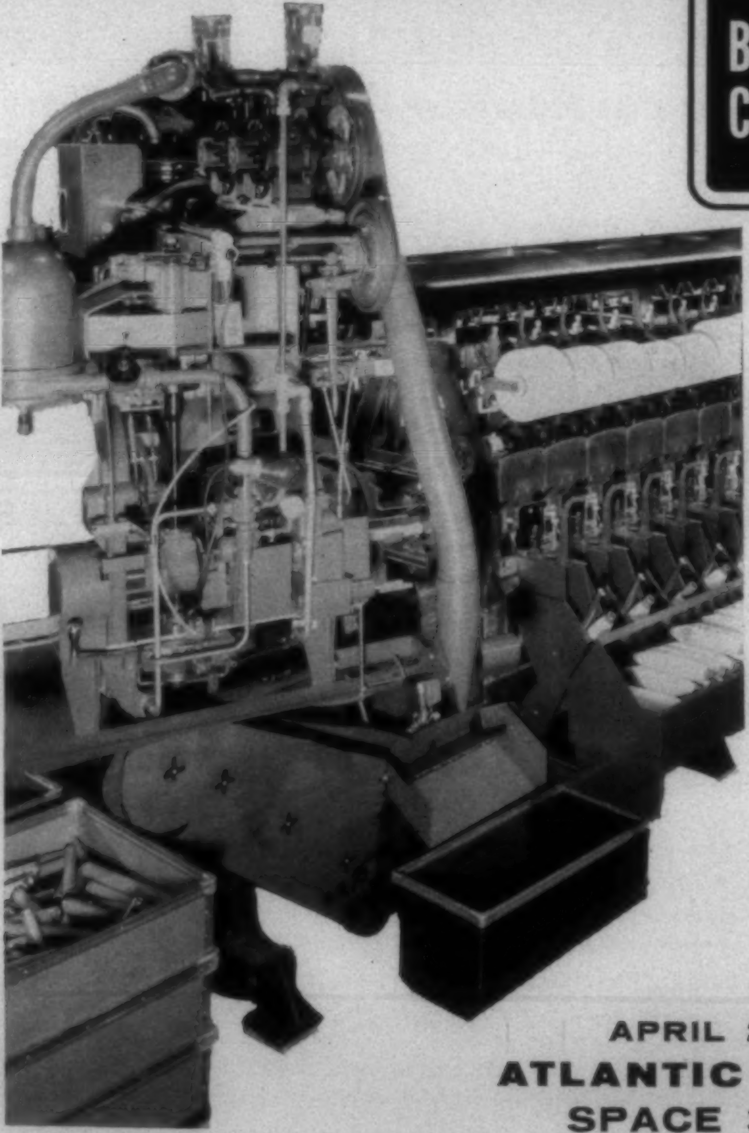
First in steel strapping

SEE IT IN ACTION!
WINDING 6° CONES
AT THE KNITTING ARTS EXHIBITION...

BARBER COLMAN



TYPE FF AUTOMATIC SPOOLER

This machine will wind the new 6° cones (in this case, on flocked bakelite cores), these cones then being put on a knitting machine to demonstrate exactly how well they perform under actual operating conditions. Be sure to see how well these cones are wound on the Barber-Colman Automatic Spooler. Note the low, uniform, air-friction yarn tension — the firmness and evenness of the wind — the minimum of taping — the efficient yarn cleaning — the ease of operating the machine — and "Every Knot a Weaver's Knot." Consider, then, the significant advantages of using Barber-Colman 6° cones in *your* mill . . .

APRIL 24 to 28
ATLANTIC CITY, N. J.
SPACE 31 and 35

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY
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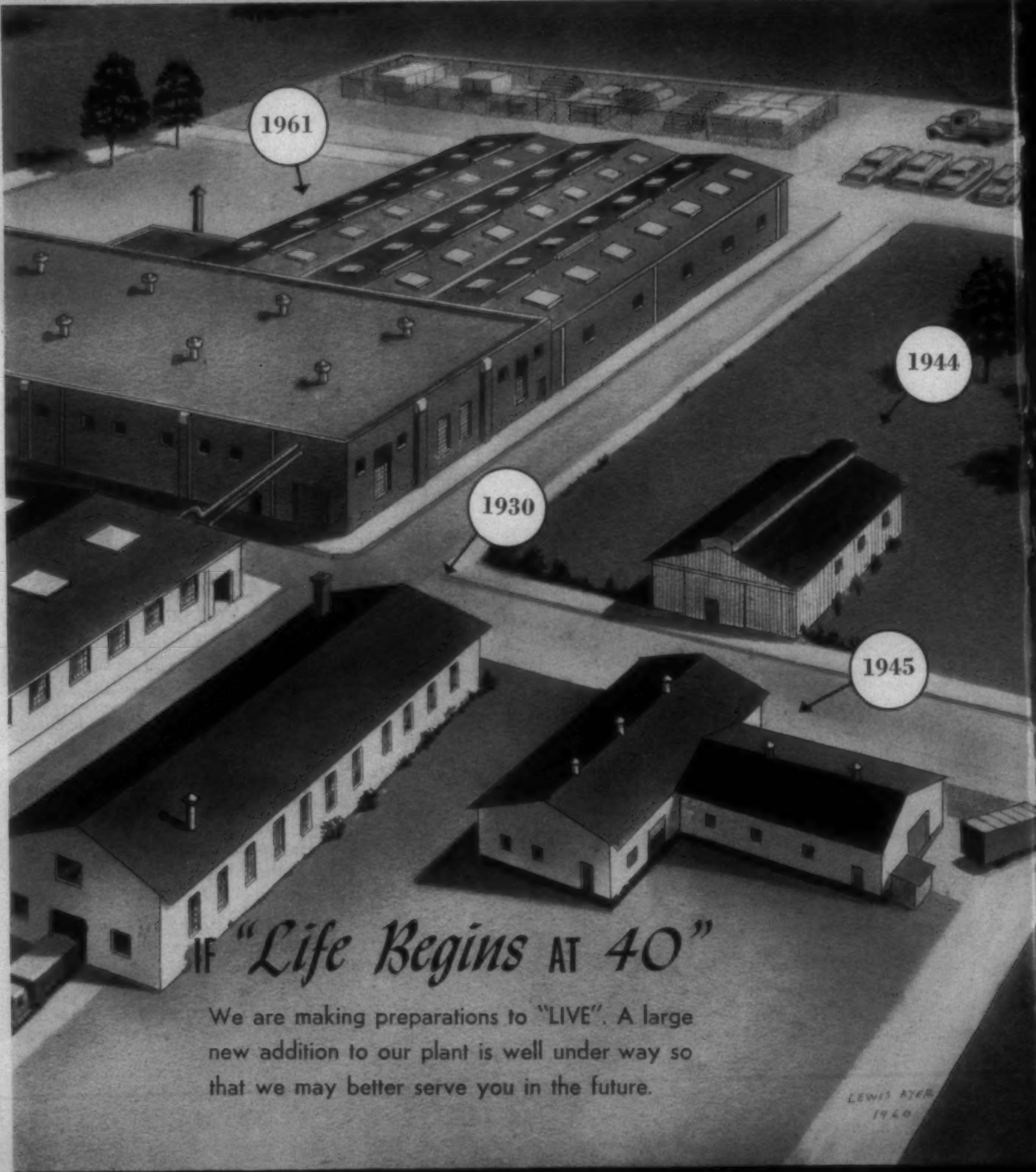

IF *"Life Begins* AT 40"

We are making preparations to "LIVE". A large new addition to our plant is well under way so that we may better serve you in the future.

Gaston County Dyeing Machine Co.

WORLD'S LARGEST PRODUCER OF PRESSURE DYEING & DRYING MACHINERY

STANLEY, N. C., U.S.A.

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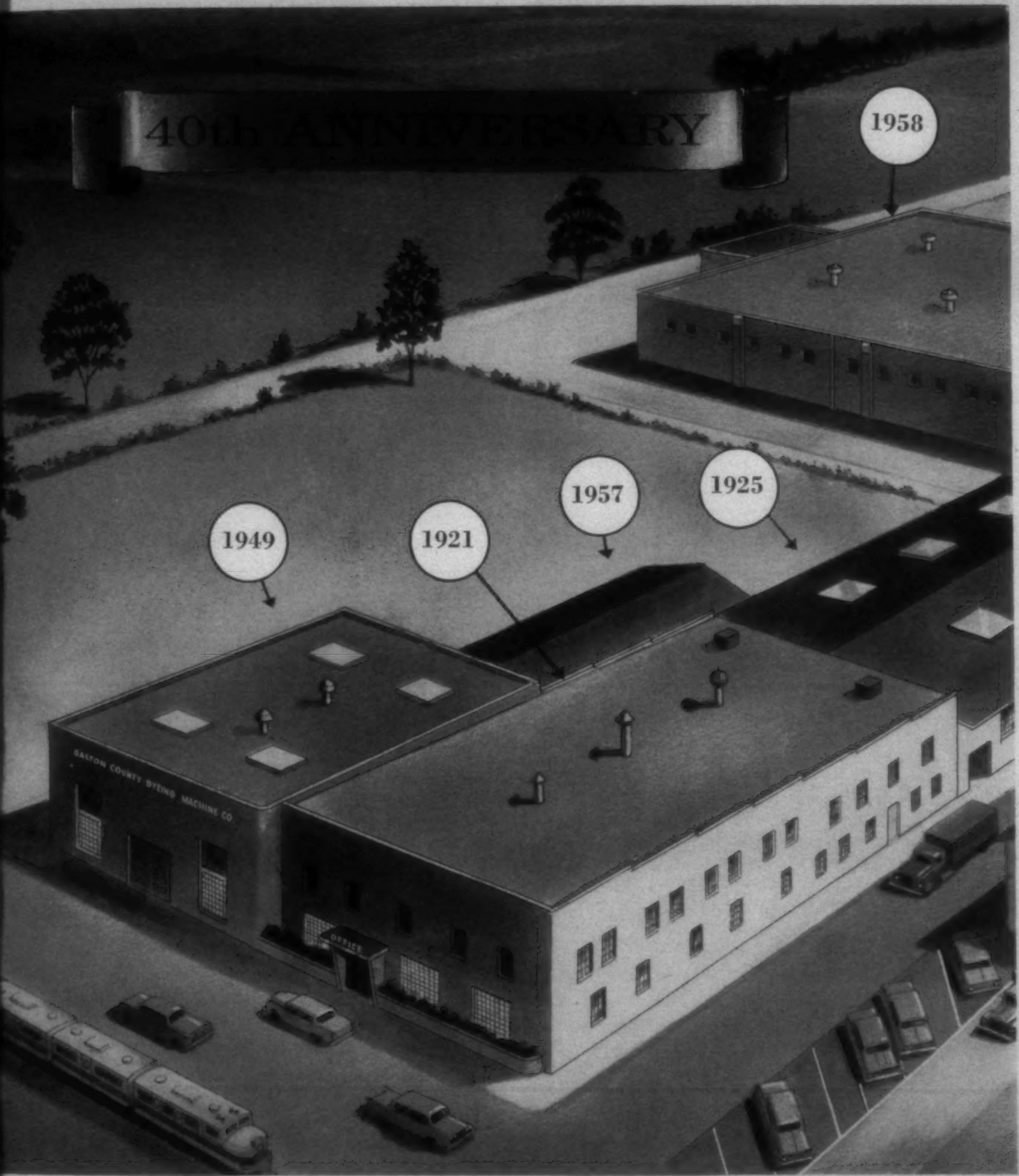


To our friends in the textile and chemical industries we express our sincere appreciation for your confidence during the past 40 years and we begin our 5th decade of service by saying simply and humbly—THANK YOU.

With our machinery operating throughout the United States and Canada as well as 15 other countries, we re-new our pledge to continue to build the best wet processing equipment that can be devised by human ingenuity and experience.

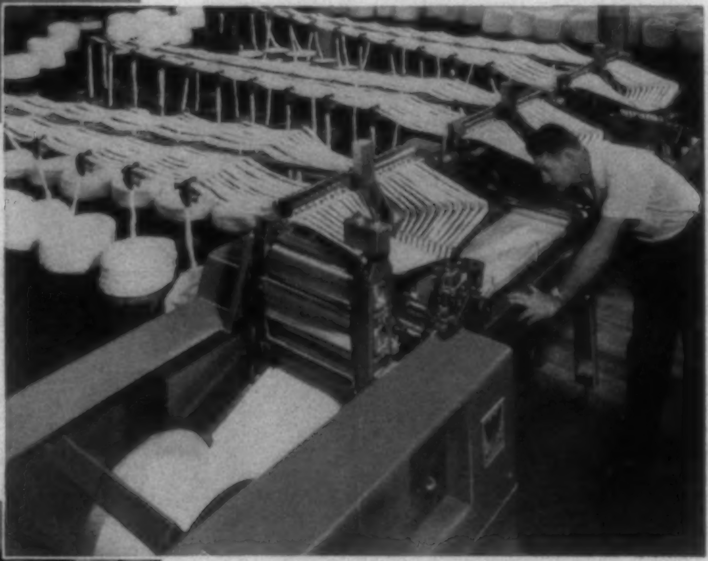
the **WHITIN** way to BETTER COMBING

The Whitin combing process is gaining rapid recognition as a major advance in the manufacturing of combed yarns. Scores of mill customers are reporting the increased production of higher quality sliver. Manufacturing costs are low and its simplicity of construction adds to its efficiency and ease of maintenance.

The Whitin Even-Draft Drawing Frame is unexcelled for drawing either before or after combing. Sliver of uniform quality is produced at speeds of 450† F.P.M. It also features a proven pneumatic waste removal system.

†Up to 600 F.P.M. carded.

Laps are formed on the new Super Lap machine. It drafts 48 - 60 ends at up to 800* lbs. per hour, forming a lap ideal for combing.



The Whitin Super J Comber has established an international reputation for fine performance. It is capable of producing up to 60* lbs. per hour. High nep removal ratio, excellent sliver quality and accurate waste control contribute to better yarns than ever being spun from given cotton grades. Its performance is equally outstanding on either super quality or production combing.

**100% efficiency.*

Sales agents in all principal textile centers

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS, U.S.A.

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MODERN EXTREMULTUS BELTING

MAINTAINS CONSTANT SPINDLE SPEED

For increased power transmisison belt efficiency use EXTREMULTUS on these textile applications too!

- WINDERS
- WOOLEN CARDS
- COTTON CARDS
- AUTO LEVELLERS
- PICKERS
- SPINNING FRAMES
- ROVING FRAMES
- OPENERS
- LOOMS

TWISTERS

INCREASE PRODUCTION Extremultus belting will not stretch . . . will not slip . . . even on starting. This enables you to maintain constant spindle speed on twisters for more production . . . every day. Constant spindle speed means better build up . . . uniform twist.

REDUCE MAINTENANCE Because Extremultus will not stretch you eliminate costly downtime for belt take-up, or replacement. Extremultus also reduces bearing loads and will outlast all other belting, eliminates lap failures.

(Even oil from spindle will not cause Extremultus to slip)

Write for Extremultus catalogue and the name of your local distributor. Ask him to *prove* what Extremultus can do on the drive you select.

THE BEST DRIVE AT
THE LOWEST COST

EXTREMULTUS, INC.

25-11 40th Avenue, Long Island City 1, N. Y.

Enka Jetspun®... the solution-dyed rayon yarn that locks-in colors, adds long life to decorator fabrics. Sectional sofa by Hausske-Harlen Furniture Mfg. Co. Fabric by Sunbury.

ENKA Softglo®... the mellow-lustered rayon yarn that imparts subtle richness to fine upholstery fabrics. Lounge chair by Rowe Furniture Corp. Fabric by Stead & Miller.

ENKA Jetspun®... a solution-dyed rayon upholstery yarn with the greatest degree of fastness to sunlight and cleaning. Chairs by Hickory Chair Co. Fabric by Mastercraft.

So many good things begin with

ENKA

UPHOLSTERY

Yarns

ENKA Softglo® ... the rayon yarn with a muted lustre for upholstery fabrics. Softglo fabrics assure lasting beauty, wonderful economy in home furnishings. Chair by Sam Moore. Fabric by Bartson.

ENKA, leader in modern fibers and yarns for home furnishings, backs its great upholstery yarns with fast-paced promotions that help you sell more fabrics. This unique Customer Service includes national advertising, merchandising aids, labels and streamers. Take advantage of it today—call Enka Merchandising in New York at 350 Fifth Avenue, PE 6-2300 or the District Sales Office nearest you.

American ENKA Corporation, Enka, N. C. • Producer of nylon • rayon • yarns • fibers
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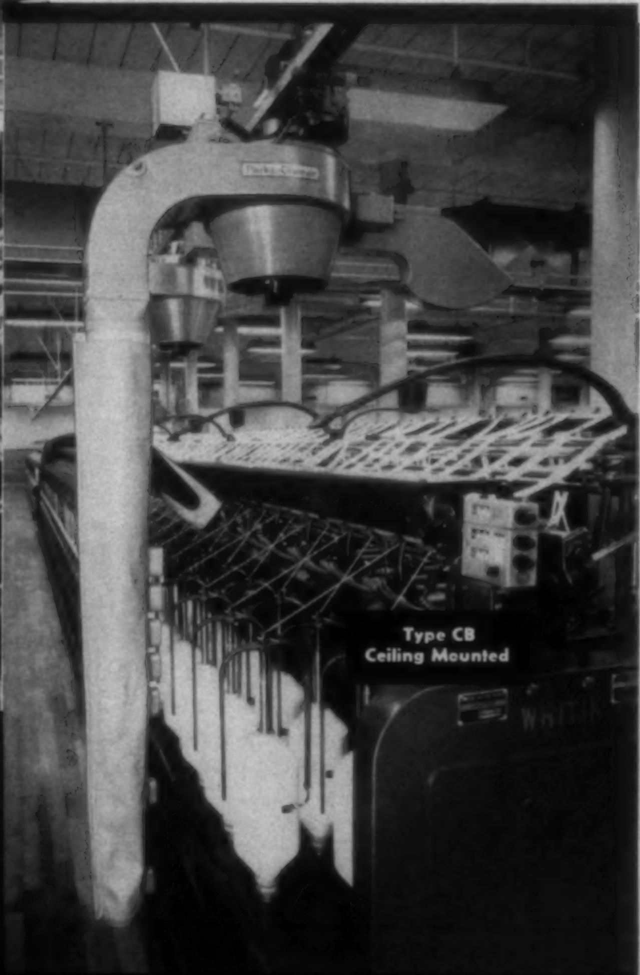
Parks-Cramer

Roving Frame and Room Cleaners

Types CTGV and CB

Type CTGV
Frame Mounted



Type CB
Ceiling Mounted

For creel area, frame and overhead surfaces

Gentle air velocities for creel areas.

High air velocities for front frame, under carriage and ceiling.

Instantaneous automatic dampering of frame cleaning during doffing, creeling and end piecing.

Send for Bulletin X106

Parks-Cramer
Company

Model 102 installation at Kimberly Yarn Mills

The First New Yarn Mill in a Decade Selects

FOSTER MODEL 102 WINDERS

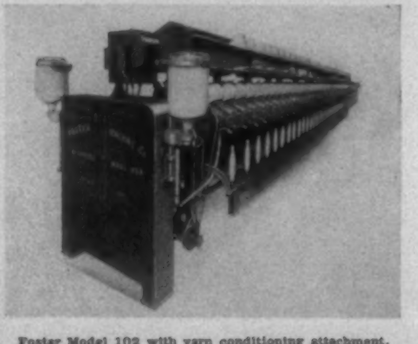
Kimberly Yarn Mills of Mt. Holly, N. C., opened its doors for business early in 1960. It did so because it believes there is still room in the market for another *quality* spinner.

There is little point, of course, in spinning a quality product unless the product is properly wound and properly packaged. That is why Kimberly selected Foster Model 102 Cone and Tube Winders.

They know that the Foster Model 102, with its self threading tension and slub catching attachments, assures clean, automatically inspected yarn; that its waxing and yarn conditioning attachments provide any degree of softening and lubrication desired; that its ribbon breaker prevents ribbon wind; and that repair costs run as low as $10.00 per year per 100 spindles.

They also know that the Foster Model 102 Cone, with its convex base and its 13° "greater taper", when full, assures free delivery at the knitting machine, preventing "nip-i-tis".

Time marches on and so does the Foster Model 102. Send for descriptive circular. No obligations.



Foster Model 102 with yarn conditioning attachment.

FOSTER MACHINE COMPANY
A YARN WINDER FOR EVERY PURPOSE

466-D

Westfield, Massachusetts, U.S.A.

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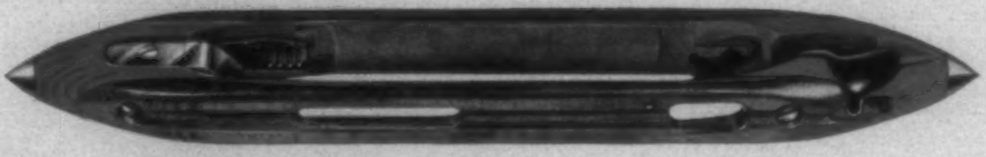
The Cone Mills story of achievement in the textile industry was first recorded in 1895. This was a proud endeavor, with much promise for the future. During the past 66 years the Cone record has been continually improved and amplified. Today it speaks for itself in full, rich tones which portray a heritage of progress and innovation in textiles. The story will be recorded many times in the future. And each time, it will echo in clear fidelity the story of Cone progress without sacrifice of quality. Today, Cone listens to its 65 year-old record with pride . . . and looks upon the challenge of the future with confidence and optimism.

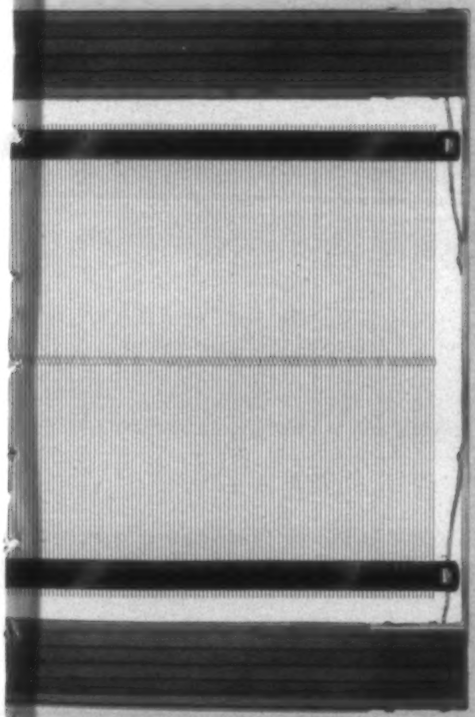
CONE MILLS CORPORATION

"Where fabrics of tomorrow are woven today."

Executive Offices: Greensboro, N. C. • Selling Organization: CONE MILLS, INC., 1440 Broadway, New York City

NOTHING SO DURABLE AS DURAWELD



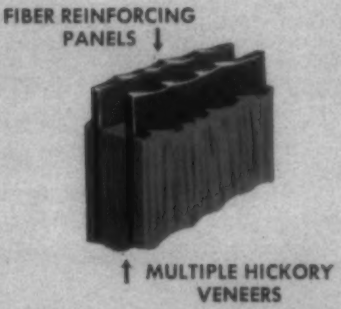


STEHEDCO Duraweld Harness Frames are Premium Grade and guarantee longer life. Each Duraweld frame stick is a lamination of strips of carefully selected, high quality wood permanently bonded together for greater strength and stability. This assures less distortion, warping, and splintering, with greater holding power for hardware, and elimination of weak spots.

SOUTHERN Duraweld Shuttles are made of finest quality tempered dogwood end blocks, for greater resiliency and tip retention, permanently bonded by an exclusive Southern method to long wearing wall sections of laminated wood or plastic. They assure at least 100% longer life expectancy with only a very moderate weight increase.

STEHEDCO Duraweld Picker Sticks provide the unexcelled combination of greater strength and whip, plus resistance to warping. They are made of multiple laminated veneers of high grade hickory reinforced with veneers of vulcanized fiber, permanently bonded with phenolic adhesive into a uniform panel.

Duraweld Harness Frames, Shuttles and Picker Sticks are manufactured with great care under rigid Quality Control methods, and will pay for themselves over and over again with superior performance and longer life. Ask one of our qualified Sales Engineers to show how YOU can start counting your savings when you invest in DURAWELD.



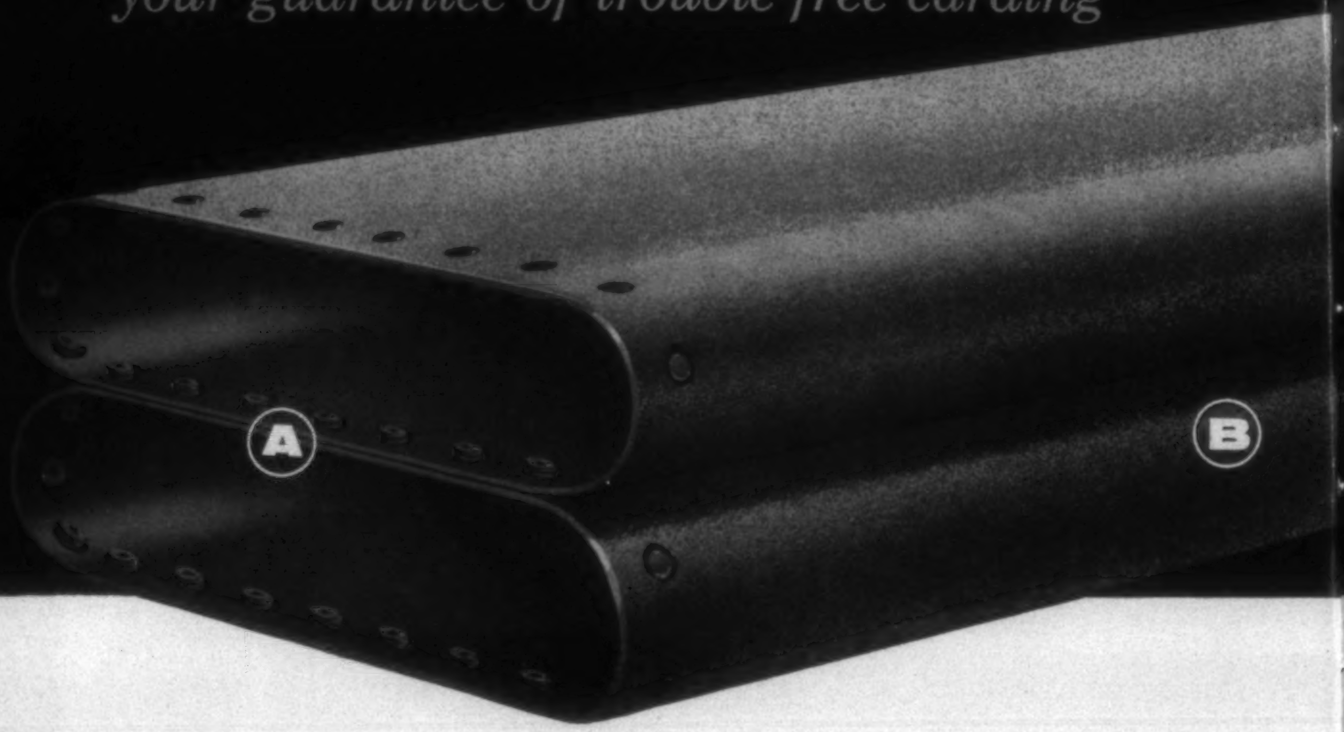
Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

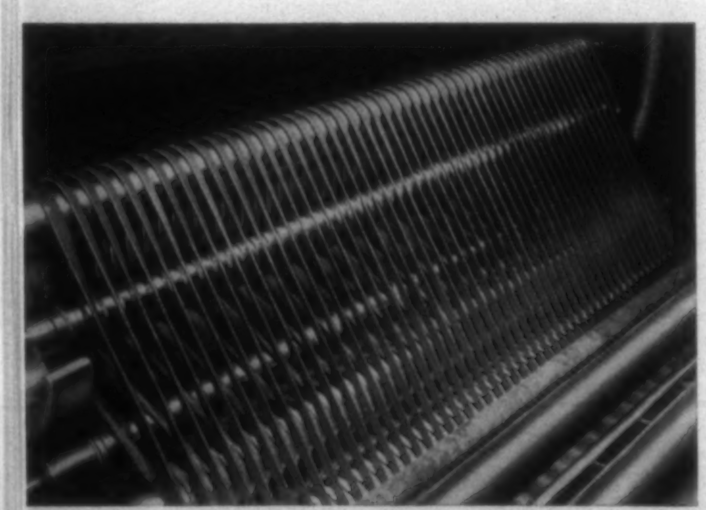
K-5919

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N. C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.

Dayco's R 792 Rub Apron...

your guarantee of trouble-free carding





There's a difference in Dayco Condenser Tape

Dayco Endless Condenser Tape, with a permanently square edge, provides a remarkable precision fit in the steel roller grooves. It virtually eliminates groove-jumping, twisting, and turn-over. And the precise compounding of Dayco Condenser Tape prevents stretching and cracking, reduces take-ups, eliminates static as well as oil deterioration.

Stealing is reduced to an absolute minimum, and better performance in general results when Dayco Condenser Tapes are on the job. Available in all lengths and widths, Dayco Endless Condenser Tapes are longer lasting, as well as lower in original cost.

Could any rub apron exceed the serviceability of the Dayco rub aprons of recent years? Or be stronger . . . or longer lived? Could any apron match it for quality—and quantity—of yarn?

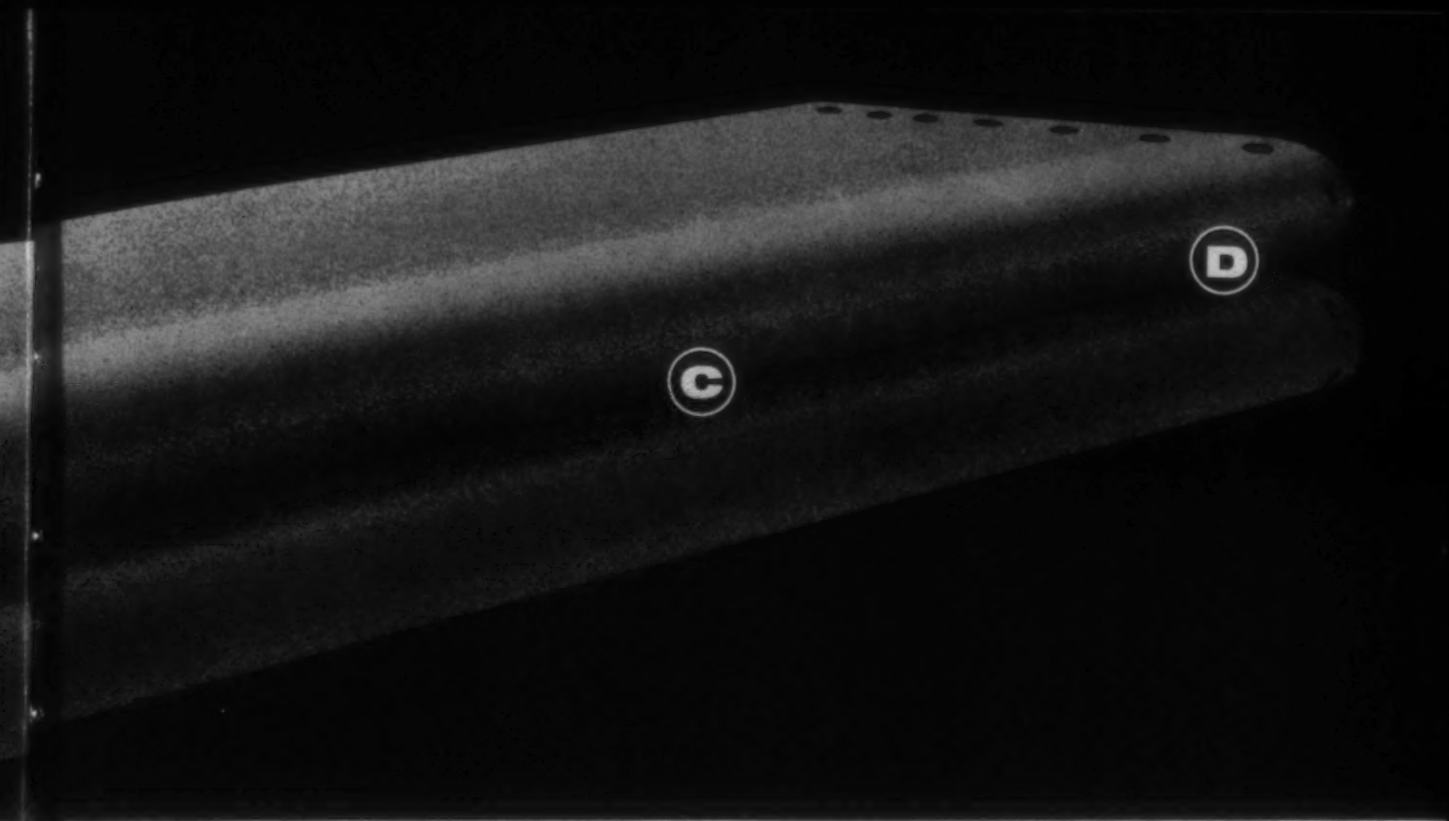
Dayco engineers—knowing better than anyone else the high standards to which existing Dayco aprons were designed—might be excused for doubting it. But Dayco scientists are not disposed to consider *any* product the final word.

Dayco Research Brings Results

Now, through continuing research and experimentation comes a new Dayco rub apron, the Dayco R 792—able to combat more successfully than ever before the problems involved in the carding operation.

In laboratory tests that simulate mill conditions, actually *exceed* the stresses and demands normally found in use, the Dayco R 792 outperformed all comers. Here are some of the particulars:

With this new apron, you'll have 78% more strength at the ends . . . strength that enables it to withstand more than 100 lbs. of additional stress without damage to apron buttons. And you'll find that same factor of added strength throughout the body of the R 792 rub apron, too.



A. The Dayco R 792 Rub Apron provides 78% more strength at the ends, with buttons able to resist up to 100 pounds more pressure and still stay locked in place.

B. The inner and outer surfaces of the Dayco R 792 Rub Apron have extremely high resistance to oil of every sort. This includes natural oil of wool and other fibres, as well as all commonly used machine oils, anti-static agents, and special emulsions.

C. The Dayco R 792 Rub Apron is compounded of material highly resistant to abrasion, to give impressive reduction in surface wear. Its special textured surface has a coefficient of friction ideal for a majority of fibres and yarns. It retains it throughout its life without cleaning.

D. The Dayco R 792 is designed to hug the rolls closely, for better tracking and easy alignment.

Surface Superiority That Lasts

The surface of the Dayco R 792 has received a great deal of attention. Its texture is suited to a broad range of fibres and yarns. Its coefficient of friction is ideal for most carding tasks, having proven itself again and again in carefully-controlled test situations. Never varying from apron to apron, the R 792 surface texture permits consistent delivery of uniformly high-quality yarn.

In addition, you'll find that the Dayco R 792 surface holds up through longer use. Compounded of more abrasive-resistant materials, this apron retains its exact coefficient of friction through all its long life. It requires no oil of any type. It requires no cleaning, either, since one apron continuously cleans the other, in operation.

What about alignment? Again, no problem, since all Dayco rub aprons are designed to hug the rolls tightly for better tracking and perfect fit.

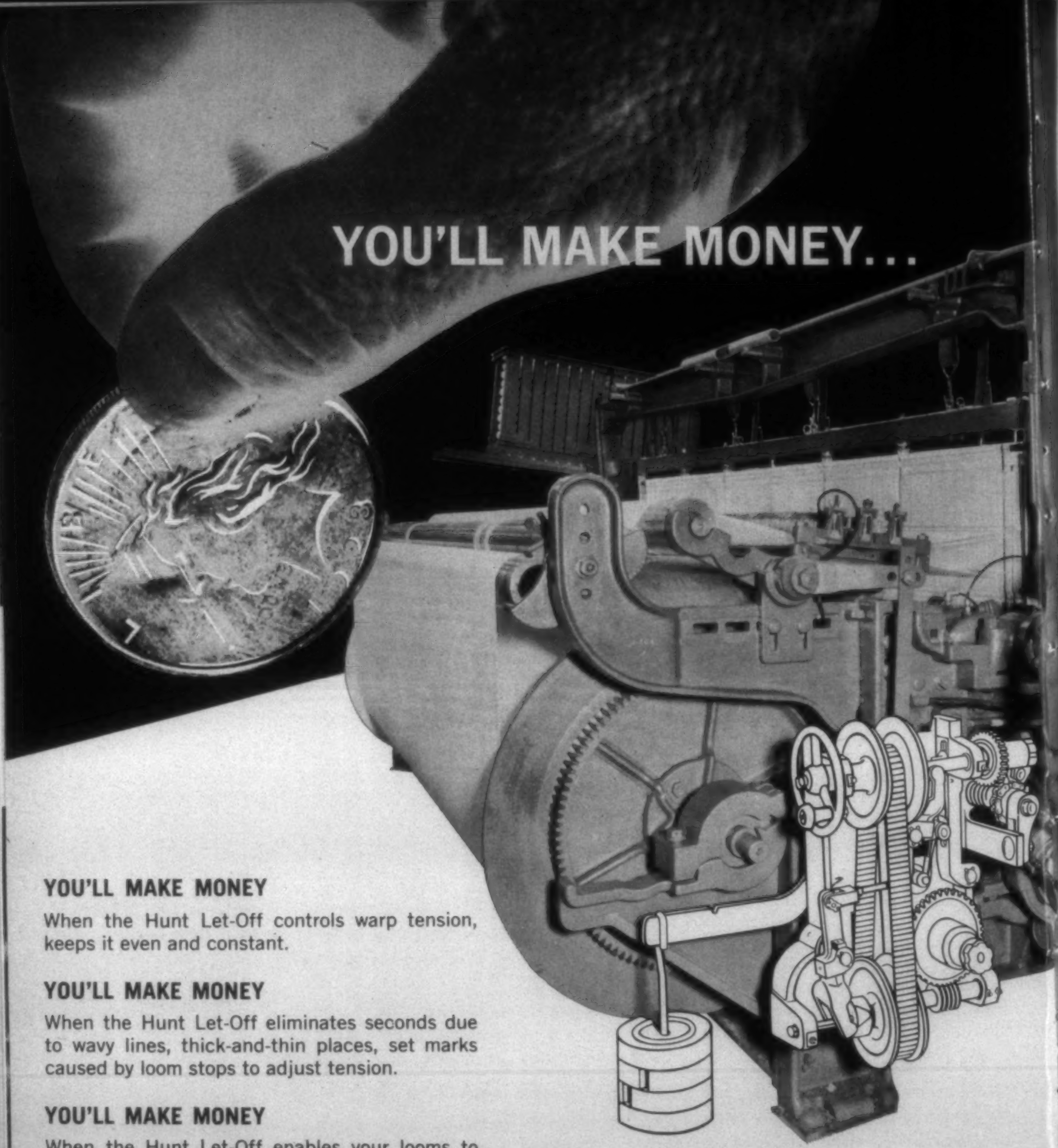
Dayco R 532 Offers Smoother Surface

Should you desire a smoother surface, you'll find Dayco's other fine rub apron, the R 532, very much to your liking. Developing less rub on fibres than the textured-surface R 792, it is engineered and produced to meet the same high performance standards . . . fully.

So choose either Dayco Rub Apron—or, if you wish, pair them, to obtain an intermediate degree of rub. Whichever you select, you'll be putting Dayco know-how . . . Dayco precision design . . . to work for you. Whatever your carding requirements, you'll find them fully met by these outstanding Dayco rub aprons . . . evidence of Dayco's continuing search for better ways of meeting the needs of textile men everywhere.

Ask your Dayco Representative to set up a trial installation, so you can check Dayco's findings, first-hand, in your own carding room. For further information, phone or write Dayco Textile Products Co., 401 S. C. National Bank Bldg., Greenville, S. C. Overseas Plant: The Dayton Rubber Co., Ltd., Dundee, Scotland.

Dayco
TEXTILE PRODUCTS CO. Dayco
Division of Dayco Corporation



YOU'LL MAKE MONEY

When the Hunt Let-Off controls warp tension, keeps it even and constant.

YOU'LL MAKE MONEY

When the Hunt Let-Off eliminates seconds due to wavy lines, thick-and-thin places, set marks caused by loom stops to adjust tension.

YOU'LL MAKE MONEY

When the Hunt Let-Off enables your looms to weave miles and miles of perfect cloth.

YOU'LL MAKE MONEY

When the Hunt Let-Off eliminates the need for tension adjustments, reduces inspection time, makes your weave room more efficient.

YOU'LL MAKE MONEY

When you install the Hunt on looms in use, specify it on new looms from C&K or Draper.

For complete details about the Hunt Let-Off Write, wire or phone for free booklet.

SOMACO

SOUTHERN MACHINERY COMPANY
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In Europe or India:
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THE DARY RING TRAVELER CO.

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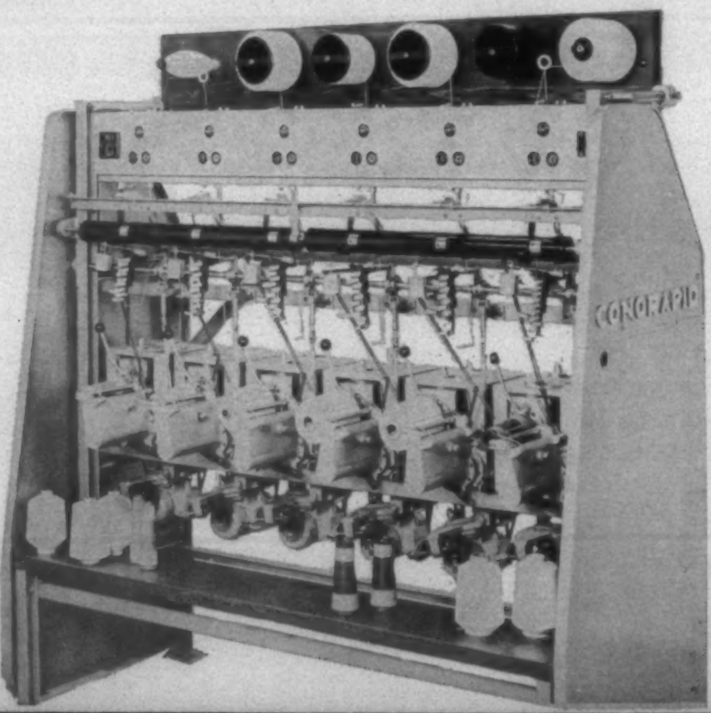
BETTER PACKAGES made faster and more economically with the

"Conorapid" PRECISION CROSS WINDER

The superior design of the "CONORAPID" Precision Cross-Winder eliminates vibration and greatly reduces noise. Average number of packages produced is increased by 1½ to 3 times because of its greater operating speeds which range from 2,000 to 4,000 rpm. Yarn guide is of basically new design—owing to fast oscillation. Despite greatly increased revolutions the yarn guide traverse ensures crossing ratios well within normal requirements.

Tension tests (conducted with electric measuring device) indicate uniformly low fluctuation. Average tension during build-up of complete package can be maintained at a constant low, or can be slightly decreased. This assures a firm build-up and uniform hardness from inside to outside, including the surface of the package. Unwinding is similarly assisted and improved.

- ***2-4000 rpm operation speed.***
- ***1½ to 3 times greater production.***



Additional Features:

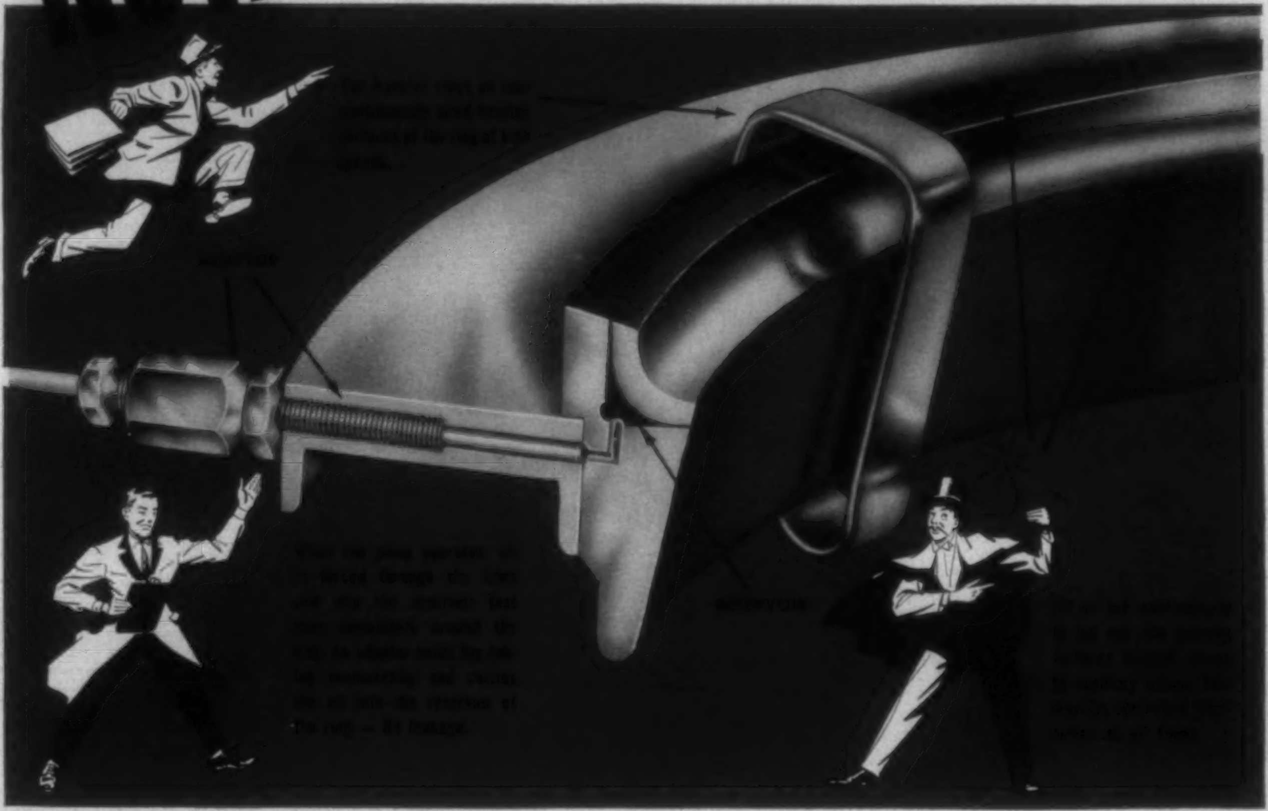
- Heavier packages can be built up because of heavy duty bearings and rotating parts.
- A few simple adjustments permit the production of various packages including: cones, pineapple cones, bi-cones, cylinder cheeses, etc.
- Winding field is readily adaptable to character of material being used.
- Greatly minimized temperature and atmospheric fluctuations virtually guarantee better quality fine denier packages of 1—1¾—in less time (1-5 hours). The same holds true for packages of heavier denier and greater weight—including textured yarns such as Banlon, Helanca, etc.
- Empty packages and thread breaks are electrically signalled to operator.
- Higher speeds and increased production make for substantial economies in space and labor.

Write today for complete data on the "CONORAPID" Precision Cross-Winder—available only from Reiner.

Write today for complete information

ROBERT REINER, INCORPORATED
550-564 GREGORY AVENUE
Telephone: UNion 7-0502 — From New York City call LOngacre 4-6882
WEEHAWKEN (Only 10 minutes from Times Square by direct bus) NEW JERSEY
AN HONORED NAME IN TEXTILE MACHINES SINCE 1903

NOW Controlled, Automatic Pressure Lubrication Ideal When Used on "M" Type HERR Conical Rings!



Each stroke of the oil pump piston is timed to provide the minimum amount of oil to lubricate the path of the traveler. No excess or waste!

RESULTS:

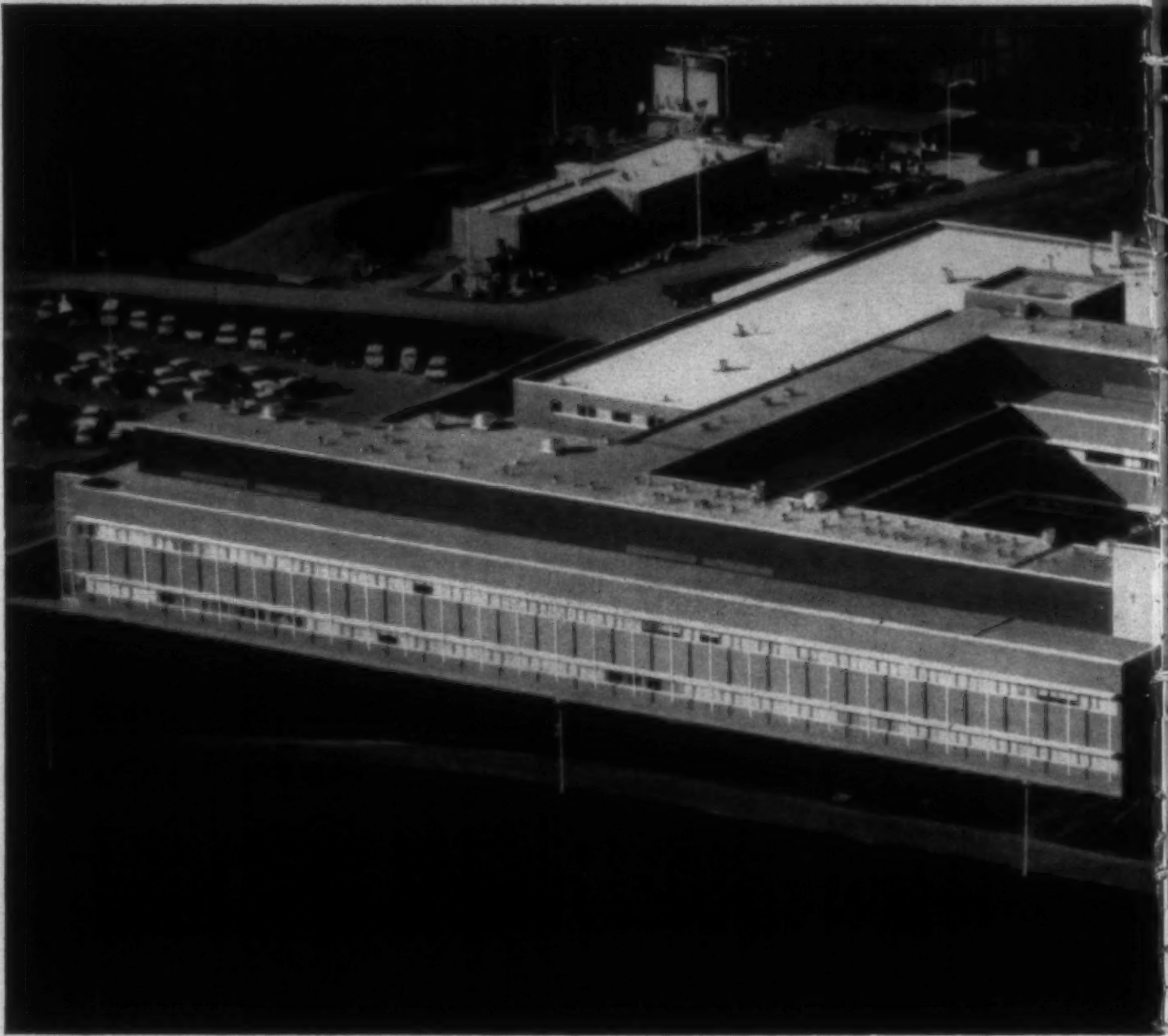
1. **Cooler operation of Ring and Traveler.**
2. **Provides longer traveler life.**
3. **Uniform tension of the yarn at all times due to adequate lubrication of the traveler.**
4. **Positive assurance of correct oil supply.**
5. **Faster operation possible.**
6. **Less ends-down.**
7. **Oil waste eliminated.**
8. **No oilcans, no dripping, no overfilling. No labor or supervision required.**
9. **Keeps costs down.**

Always a step ahead, Herr "M" Type Rings are now designed for pressure lubrication from a centralized lubrication system. Oil cups have been eliminated. The oil is introduced through newly designed adapters directly to the annular supply reservoir. (This reservoir runs completely around the ring.) From this reservoir the oil moves continuously by capillary action through the top and side seams. This controlled lubrication assures just the right amount of oil to the traveler. Controlled lubrication because of the special design of Herr "M" Type Rings is entirely self contained. There is no excessive oil, no waste—no overflow of oil to coat other parts of the machine. It is clean lubrication insuring clean yarn without increased maintenance.

Write for complete information.

HERR MANUFACTURING CO., INC.
312 FRANKLIN STREET • BUFFALO 2, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES



Chemstrand grew 170,000 square feet yesterday . .

Announcing the new Chemstrand Research Center, Inc. Here, more than 300 scientists are engaged in the research that will shape the fibers of tomorrow!

From Chemstrand's new Research Center will come the most important raw material in our business and yours: ideas.

Ideas for new fibers. Ideas for making present fibers better. Ideas on dyeability. On new textures. On new fiber processing finishes. Ideas on new end uses and consequently new markets. Each of these fresh ideas will finally mean significant new opportunities for you.

Here we will also develop new techniques for making Chemstrand yarns. We will invent new and better test methods. And here, technical knowledge from the entire world will be examined for its possible use in your products and ours.

It's quite a program. But this is quite an establishment. 170 thousand square feet big! Facilities for over 500 scientists and technicians. Laboratories so complete that any experiment, no matter how elaborate, can be conducted. And a library that already includes over 37,000 technical books. Without question, the new

THE CHEMSTRAND CORPORATION • GENERAL SALES OFFICES: 350 FIFTH AVE., NEW YORK 1, N. Y.
DISTRICT SALES OFFICES: 350 Fifth Ave., New York 1; 3½ Overwood Rd., Akron, Ohio; 197 First Ave., Needham Heights, Mass.; 129 West Trade St., Charlotte, N. C.; California Office: 707 South Hill St.,

. . . to develop better products for you tomorrow!

Chemstrand Research Center is one of the most significant developments in the history of man-made fibers.

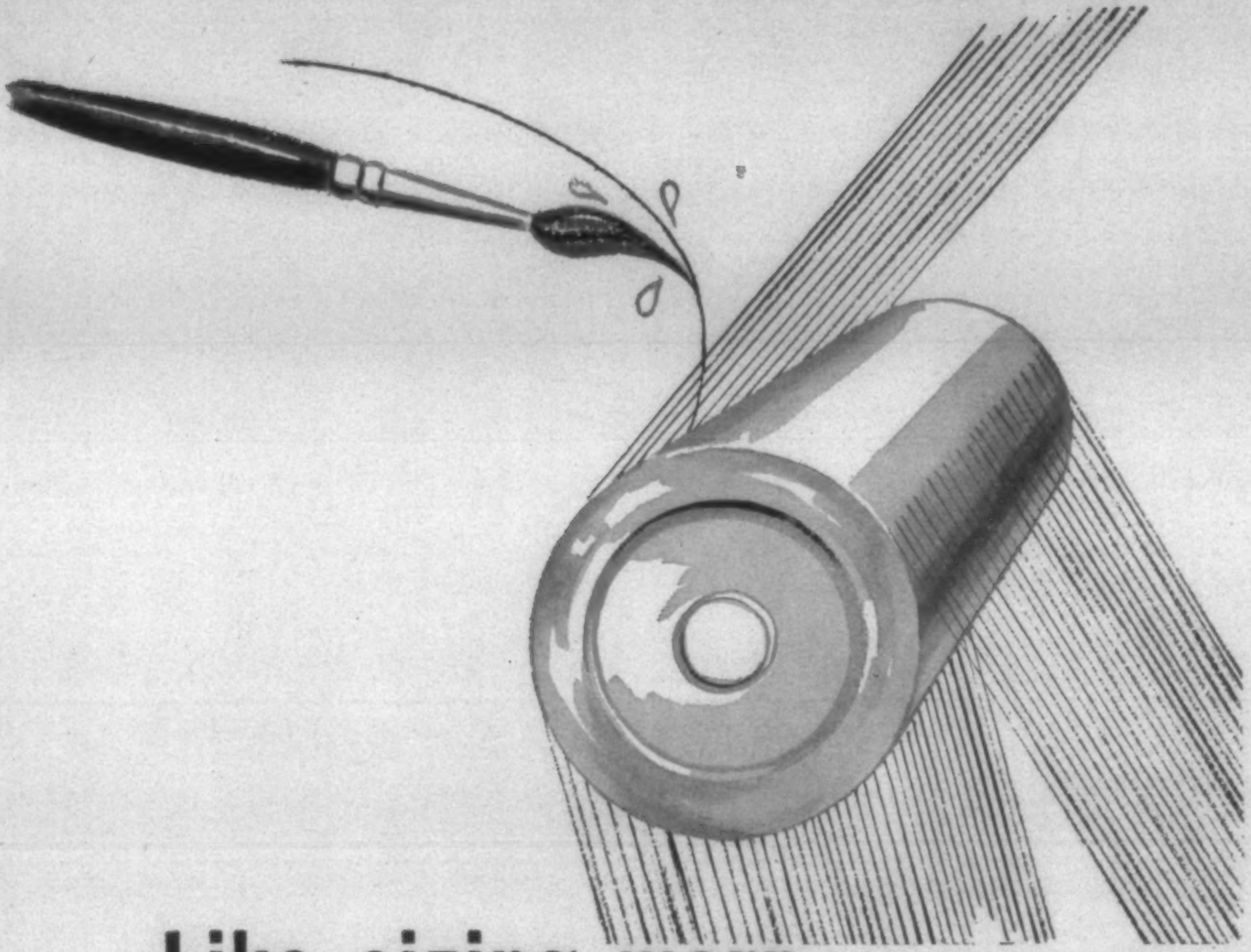
Before erecting this new center, Chemstrand considered over 21 different sites. The Research Triangle Park in North Carolina was chosen because it possesses the proper atmosphere for research. It is in North Carolina's famous "Research Triangle" of Raleigh (home of North Carolina State College), Chapel Hill (home of the University of North Carolina) and Durham (home of Duke University). For scientists and technicians, there is no area in America that is more intellectually stimulating. And for their wives and children, there is no area that is more beautiful.

We don't know yet what wonders will come from this. But when they do come, you can be sure they will improve your business and ours.

Chemstrand Research Center, Inc.
Research Triangle Park,
North Carolina

Wholly-owned subsidiary of The Chemstrand Corporation.

Los Angeles 14. Canadian Agency: Fawcett & Co., 34 High Park Blvd., Toronto, Canada • PLANTS: ACRILAN® ACRYLIC FIBER—Decatur, Ala.; CHEMSTRAND® NYLON—Pensacola, Fla., and Greenwood, S. C.



Like sizing warp "end by end"

Weaving at high efficiency goes back to the depth and uniformity of warp sizing. CLINTON starches reach warp ends *completely*, to give yarn increased strength and a friction-free surface. At the slasher and loom, shedding is minimized. In the finishing operation, CLINTON starches give the proper hand and body to your fabrics. To assure consistent quality from warp sizing to finishing, you can always count on dependable CLINTON starches . . . the standard of comparison in leading textile mills.

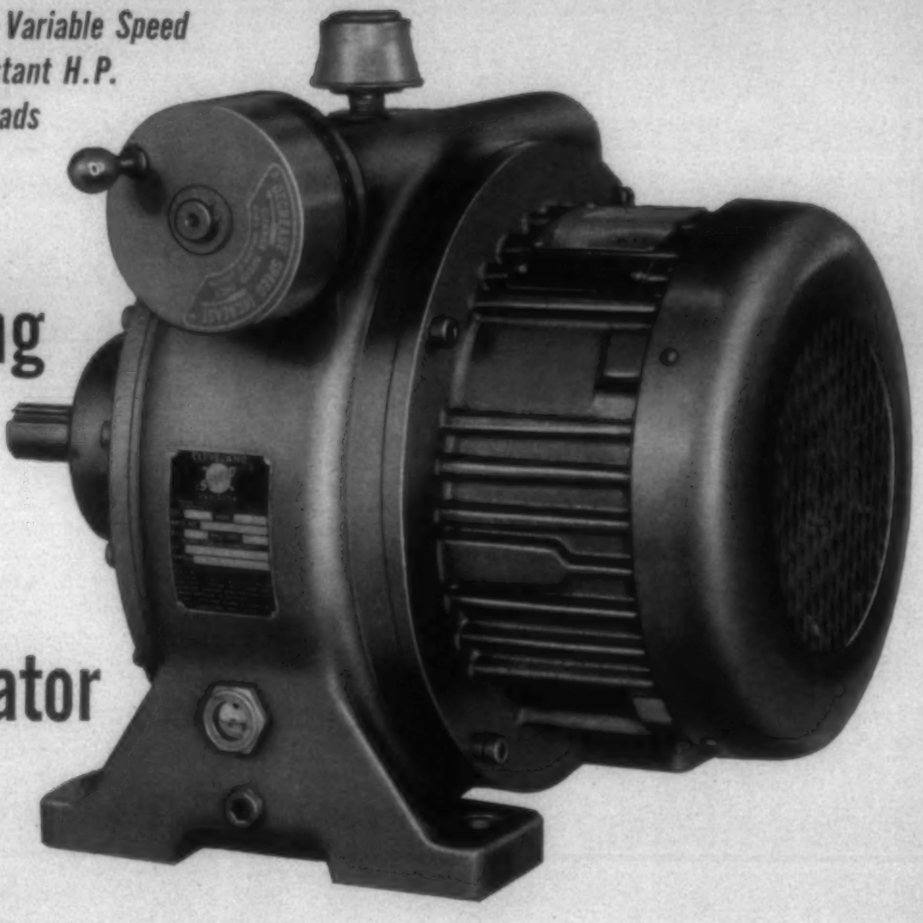
CLINTON CORN PROCESSING COMPANY

CLINTON

CLINTON, IOWA

Today's most Compact, Variable Speed Package Drive for constant H.P. and constant Torque loads

New space-saving Cleveland motorized Speed Variator



Now, for either OEM applications or to modernize existing machines and equipment, these versatile, precision-engineered Speed Variators can be used in place of larger variable speed drive units and their connecting electrical drives. If there's room for a motor —an equally sized Cleveland will usually fit in the space.

Here's the complete Motorized Speed Variator story:

- Requires only slightly more space than equally rated standard electric motor
- Provides variable output speeds over 9:1 and 6:1 ranges
- A complete line featuring 5 sizes from ⅓ to 15 HP
- Integral "pancake" style AC radial air gap motors conforming to NEMA design "B" specification
- Provides speed holding accuracy up to 0.1% with uniform loading
- Output speeds smoothly and easily adjusted while operating under load

Variator is a true torque converter—provides high torque at low speeds for constant HP applications.

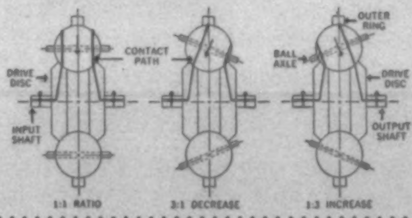
Utilizing the component you wish driven, Cleveland will design and build a complete compact pre-aligned and tested Speed Variator drive assembly mounted on a suitable base plate.

New Motorized Variators offer the ultimate in control versatility. They can be engineered for either manual, electrical or pneumatic operation.

For complete engineering information on the New Cleveland Motorized Speed Variator, write for free, illustrated bulletin Number 275 or contact your Cleveland representative today.

How The Speed Variator Works

Power is transmitted through input shaft to a beveled drive disc in contact with axle-mounted alloy steel drive balls. Input shaft rotation causes balls to rotate about their axles. Power is then transmitted from all rotating balls to output shaft by similar ball-disc contact on the output side. Output speed is determined by relative lengths of contact paths on input and output sides of the balls. By tilting both axles and balls, relative lengths of the two contact paths are varied to give increasing or decreasing ratios as shown on sketches.



Cleveland Worm & Gear Division
Eaton Manufacturing Company
3274 East 80th Street • Cleveland 4, Ohio

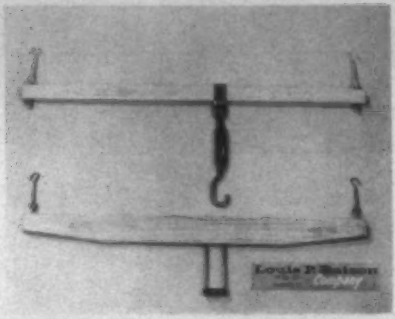
EATON

CLEVELAND
SPEED VARIATOR

For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

Sliding Cuff Jackstick



Louis P. Batson's new sliding cuff jackstick *(top)* is designed to simplify supply order since one jackstick can be stocked for all harness positions.

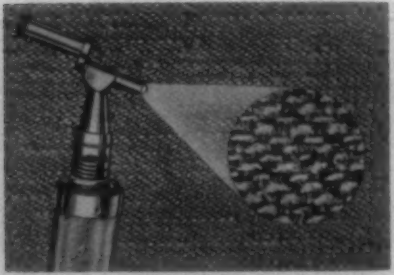
A new sliding cuff jackstick for all loom treadle positions is being marketed by the Louis P. Batson Co., Greenville, S. C. A more durable stick because it has no notches, it has a sliding cuff anchored firmly to the stick.

The new jackstick is designed to simplify supply ordering procedures, reduce wear from turnbuckle assembly vibration and reduce the quantity of jacksticks required for inventory.

On the new jackstick, no nails or pins cause trouble or interference. Jacksticks of different lengths use interchangeable sliding cuff assemblies, according to the company. One jackstick can be stocked for all harness positions and for use on looms having cams on camshaft or cams on auxiliary shaft treadle spacings.

(Request Item No. C-1)

Cloth Inspecting Device



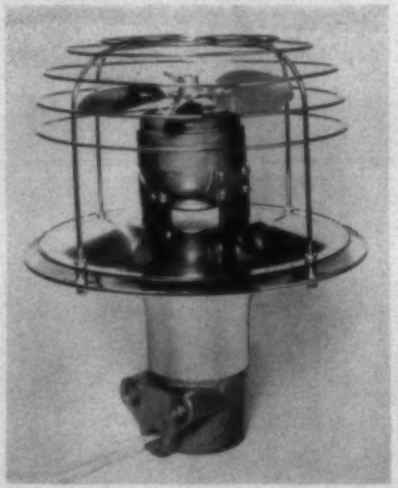
A self-powered inspection light with magnifying lens designed for surface inspection of textiles is being made available by Welch Allyn Inc., Skaneateles Falls, N. Y.

The new light uses an extremely brilliant miniature lamp of a type developed for medical instruments and is attached by a bayonet joint to a chrome-plated, knurled battery handle. Handles are in two sizes to take standard C or D flashlight batteries. The smaller handle is also available complete with rechargeable nickel-cadmium batteries.

Magnification is furnished either by a fixed-focus 2x lens or an adjustable focus 4x telescope, depending on the amount of magnification needed.

(Request Item No. C-2)

Compact Humidifier



This Steamette humidifier from the Bahnson Co. discharges steam vapor in a 360° radial pattern, or portions of this discharge may be blanked off as required.

The Bahnson Steamette Humidifier introduced by the Bahnson Co., Winston-Salem, N. C., is designed to provide simplicity and economy of installation and operation with high evaporative capacity. The Steamette discharges steam vapor in a 360° radial pattern, or portions of this discharge may be blanked off as required. The corrosion resistant construction of the new unit and its compact, lightweight, unit design keep maintenance to a minimum, according to the company. The Steamette maintains desired humidity levels with constant accuracy, automatically controlled by the Bahnson MBE1 or MBG1 humidity controls.

Installation of the lightweight unit is made by connection to existing steam supply lines and electrical outlets. It uses an atmospheric drain line rather than a condensate return line to the boiler. Therefore, no steam traps are required, eliminating additional installation expense and maintenance. Design of the humidifier permits re-evaporation of steam condensate in the unit during the operating cycle. However, the drain line is required to remove excess line condensate on start-up. As a result of this design, condensate loss is negligible and economic operation is outstanding.

The Steamette humidifier is normally supplied complete with a steam solenoid valve assembly including steam strainer, pressure gauge and gate valve, in addition to the automatic control. It operates on steam pressures from 2 to 30 p.s.i.g. and on 115-volt electric current. The unit is 13¾" high and 12" dia. with a net weight of 15¾ lbs. One Bahnson humidity control can operate as many as six Steamette units without the necessity of using magnetic contractors.

(Request Item No. C-3)

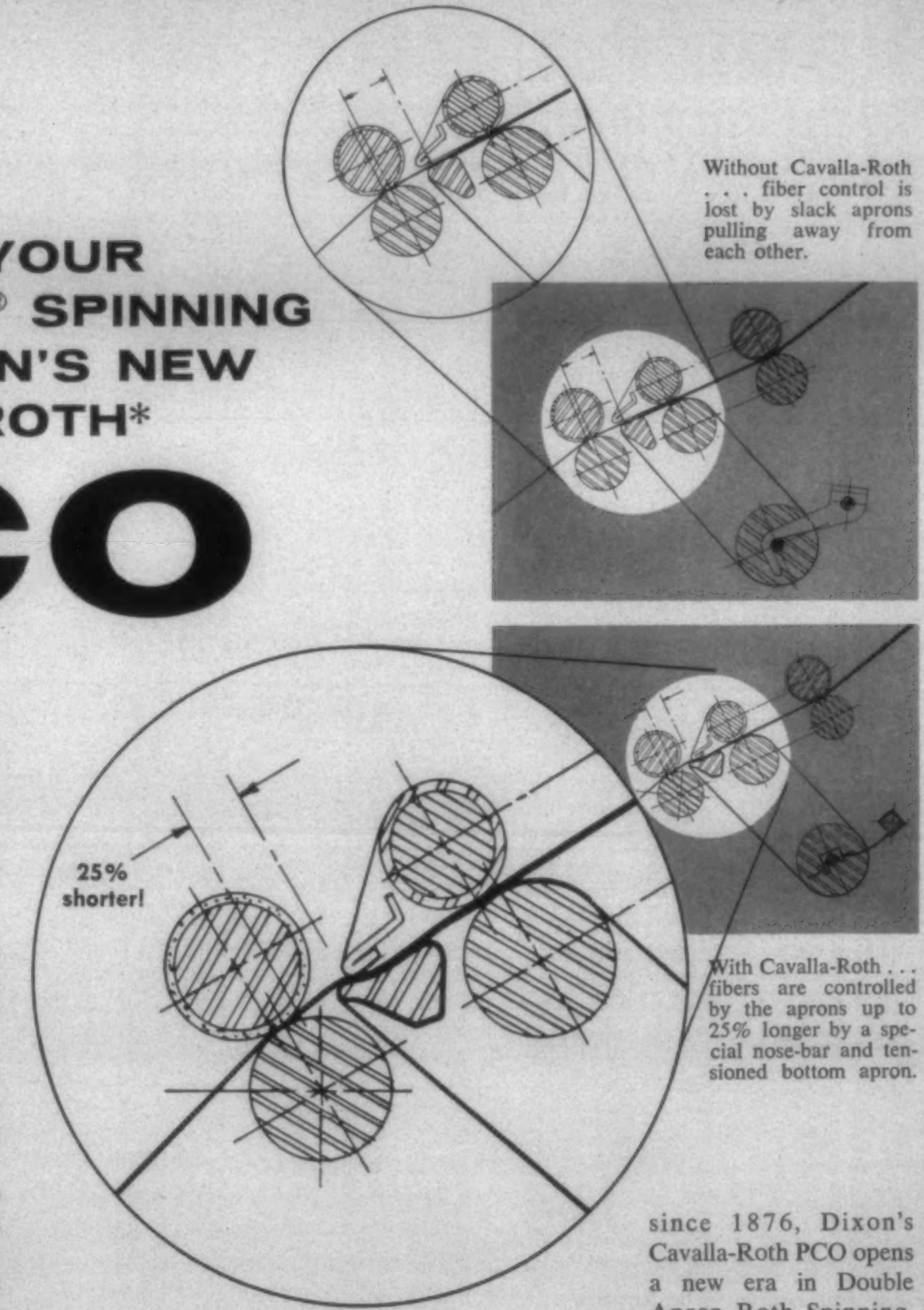
Pocket Psychrometer

James Hunter's Pocket Psychrometer is only a little larger than a pack of king size cigarettes.

A transistorized, battery-powered pocket model of its psychrometer has been introduced by James Hunter Inc., Mauldin, S. C. The pocket psychrometer provides a quick, accurate method for determining the moisture content of raw fibers, yarns in skeins, cops and a variety

ADVANCE YOUR DUO-ROTH® SPINNING WITH DIXON'S NEW CAVALLA-ROTH*

PCO



Without Cavalla-Roth . . . fiber control is lost by slack aprons pulling away from each other.

With Cavalla-Roth . . . fibers are controlled by the aprons up to 25% longer by a special nose-bar and tensioned bottom apron.

Now . . . with Dixon's Cavalla-Roth PCO (partial changeover) . . . mills using Duo-Roth Spinning can obtain greatly improved fiber evenness and strength with very little investment per spindle. Cavalla-Roth consists of a scientifically-shaped apron nose-bar coupled with a spring tightening system for the lower apron.

Cavalla-Roth PCO assures controlled spacing between top and bottom aprons at the point of fiber exit . . . reduces up to 25% the uncontrolled space between the nip of the aprons and the bite of the front rolls. Because the bottom apron is spring-tightened, Cavalla-Roth PCO also insures full contact between the two aprons along their entire surfaces — for better fiber control!

Cavalla-Roth PCO results in markedly improved yarn quality . . . sets a new high standard of comparison for the industry. Equipment requires but a few minutes for installation — and is very economical. Based on experience gained in manufacturing drafting changeovers since 1876, Dixon's Cavalla-Roth PCO opens a new era in Double Apron Roth Spinning. See for yourself how Cavalla-Roth PCO can give you more uniform, stronger, finer quality yarns . . . make an installation on your frames now!

For details write

Dixon Corporation — Bristol, Rhode Island
Plants in R. I. and Charlotte, N. C.
Sales and Service representatives throughout the Industry.

*Pat Applied for
® Saco-Lowell T.M.

Dixon

ENGINEERED SPINNING CHANGEOVERS SINCE 1876

LUBRIPLATE IS THE IDEAL LUBRICANT

—say leading Textile Manufacturers

LUBRIPLATE Lubricants have won acceptance in the textile industry because even with speeds up to 25,000 R.P.M., they have exceedingly long life and do not break down. LUBRIPLATE Lubricants range from the lightest oils to the heaviest greases to meet every requirement of the textile industry.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

of packages and fabrics. The principle on which it operates is based on consideration of the total electrical phenomena which indicate moisture content under expected plant processing conditions.

The versatility of the Hunter pocket psychrometer resulted from the development of a variety of special sensing devices, which are connected by a simple plug-in attachment to adapt it to the particular material being processed.

Two types of pocket psychrometers are offered for the textile industry's use. One contains special circuitry for measuring moisture in cotton, rayon and other cellulosic fibers, as well as polyester and acrylic synthetics. The other is for use with wool, nylon and similar synthetics. A special measuring element also is available, which determines relative humidity, and offers new possibilities for better control of this factor, Agile reports. The unit is designed to sell for under $200.

(Request Item No. C-4)

Aftercoppering Direct Dye

Sandoz Inc., New York City, has announced the development of Cuprofix Blue C-FBL, a new aftercoppering dye which is said to exceed all other Cuprofix blues in brightness and clarity of shade. It is being recommended by Sandoz for all types of cotton or viscose materials where exceptional fastness to light and washing are desired. Its fastness to hot pressing is said to be good, and it is white dischargeable if discharged prior to coppering.

Special applications for the new dye include royal blues on knitgoods and other washable materials of cotton and viscose; and to brighten up fast blues and navy shades for resin-treated fabrics.

(Request Item No. C-5)

Leveling Agent For Wool

Lyogen WD, a newly developed and remarkably efficient leveling agent for the dyeing of wool, has been introduced by the chemical division of Sandoz Inc., New York City. The product is recommended for use with acid dyes, milling dyes and chrome dyes. Sandoz reports that because of the acid pH of the solution, wool dyeings will be noticeably brighter in tone since yellowing of the fiber is avoided.

Applications of Lyogen WD are also said to permit the dyeing of neutural and weakly acid dyeings in one bath at a pH between four and five (the conditions most favorable to wool) and to insure completely level and non-skittery dyeings.

The chemical is also said to facilitate the use of certain chrome dyes which have pronounced tendencies towards skittery and unlevel results. Its retarding and leveling action has proved useful in the dyeing of silk and polyamide fibers with milling dyes, according to the company.

(Request Item No. C-6)

Stripping Assistant

A new stripping assistant for vat dyes has been developed by the Arkansas Co., Newark, N. J. Alepon XR has been designed to increase the efficiency of vat dyes of the anthraquinone type which have been difficult to discharge to a satisfactory ground, according to the company.

After the dye has been satisfactorily stripped, there is no tendency for the color to redevelop, under normal conditions. Alepon XR is easy to use, involving only the addition to a conventional sodium hydrosulfite and caustic soda bath. It has excellent storage properties, Arkansas reports.

(Request Item No. C-7)

Softening Agent

A non-ionic softening agent for synthetic knitted and woven elastic fabrics has been made available for general distribution to the textile industry by W. F. Fancourt Co., Philadelphia, Pa. The new product is called Softener 4.

It has excellent non-yellowing and gas-fading properties along with an ability to impart a high degree of softness and body to fabrics, according to the firm.

Softener 4 is designed to be used alone or in combination with other finishes, according to Fancourt, and will withstand normal drying temperatures. Additionally, the new softening agent is suitable for treating bleached, dyed and printed textiles.

(Request Item No. C-8)

Thread Guard Casters

A high-capacity thread guard to minimize equipment downtime and maintenance is a feature of new Rapistan textile casters introduced by The Rapids-

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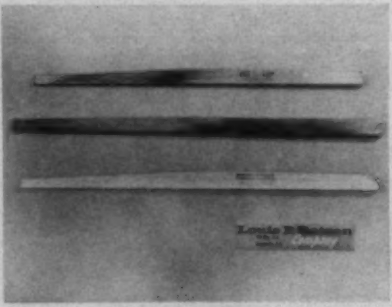
Standard casters, swivel and rigid, are available for textile mill applications with load ratings from 100 to 3,000 lbs. per caster. The thread guard is designed for maximum protection against thread binding. Its high capacity assures longer service between maintenance periods.

Rapistan textile casters are interchangeable with other brands of casters built to standard textile industry specifications. Plate sizes, bolt hole spacings, overall heights and wheel diameters are engineered to permit flexibility in selection of casters for all mobile mill equipment.

Nicrosteel or Durastan (phenolic resin) wheels provide maximum floor protection in standard models and special purpose casters are available with soft tread, hard tread rubber and pneumatic tires, according to the company.

(Request Item No. C-9)

Picker Sticks



Three of the five pickersticks which now give Batson a complete line are *(top to bottom)* the Hick-Ry-Whip, the Sturd-E-Stick and the Fixers Favrit.

The Louis P. Batson Co., Greenville, S. C., has completed its line of picker sticks with the addition of two new types—the Bett-A-Stix and the Tuff-Top Stick.

The Bett-A-Stix is a compressed hickory stick, while the Tuff-Top Stick is made from laminated wood, impregnated with phenolic resin and compressed to a specific gravity of 1.30 at the top where most of the wear takes place and .90 at the bottom, reports the company.

Other sticks in the Batson line are the Fixers-Favrit, made from seasoned hickory; Hick-Ry-Whip, made from a laminated hickory material bonded with phenolic resin, compressed to a specific gravity of .90 and reinforced with vulcanized fiber to prevent splitting; and the Sturd-E-Stick, a laminated hickory material bonded with phenolic resin and compressed to a specific gravity of 1.20. Batson says that the laminated sticks still retain the toughness and flexibility of natural hickory.

(Request Item No. C-10)

Steel Strap Sealer

Many hours of the two years that went into the development of the new Micrgrip seal were spent at this machine in Signode's Standards Laboratory which tests the joint strength of strapping and seals.

The Micrgrip seal, a new steel strap sealer, has been developed by Signode Steel Strapping Co., Chicago, Ill. The new seal's joint strength lies in a special high friction mastic compound which coats the inside surface in the area where crimping action occurs. When the crimps are applied, the mastic compound "bites through" the strap coating to provide a strong frictional bond between the metal surfaces.

The Micrgrip is designed to combine high joint strength with high impact resistance, and to permit the sealing to be done with a minimum of effort. Its use will be confined, for the present, to painted, painted and waxed, or waxed Magnus and Heavy Duty strapping in 1¼" widths, according to the company.

For joints as strong as the strap, Signode engineers recommend the use of two Micrgrips, each crimped twice with a crimp sealer. Micrgrip seals are not recommended for dry strapping as the regular seals provide higher joint strength here.

Signode has two types of Micrgrip seals available for immediate shipment—the 114G and the 107G—both of which are 22 gauge. The 114G seal is 2¼" long and may be used with either a B-1435 or UB-1435-50 sealer. The greater length of the 107G—2$\frac{15}{16}$"—enables it to be used with the N-1435 pneumatic sealer as well as with the two hand-powered models.

(Request Item No. C-11)

Electronic Control System

The new Model 350 Reference Voltage Source developed by the Wheelco Division of Barber-Colman Co., Rockford, Ill., is a component for use with null seeking galvanometer type indicating controllers. This combination is designed to give a measuring system for critical control applications, requiring extreme measuring sensitivity on processes and to incorporate minimum time lags compatible to a 5% or less proportioning band. A 3-digit dial provides minute (one degree) adjustment of set point. Null balance circuitry, the company reports, eliminates the effect of lead-wire length on calibration.

The unit incorporates a Zener diode stabilized source. Adding resistances provides a choice of response times. Cold junction compensation is continuous, and overall measurement sensitivity is 0.25° F. and is better with base-metal thermocouples.

(Request Item No. C-12)

Wet-Brushing Unit

A single-operation wet-brushing unit has been developed by Machinefabriek J.A.F. van Wees of the Netherlands. This wet-brusher is designed to eliminate the need to brush the same fabric several times, and to still give a deep gloss without shifting even a single roller.

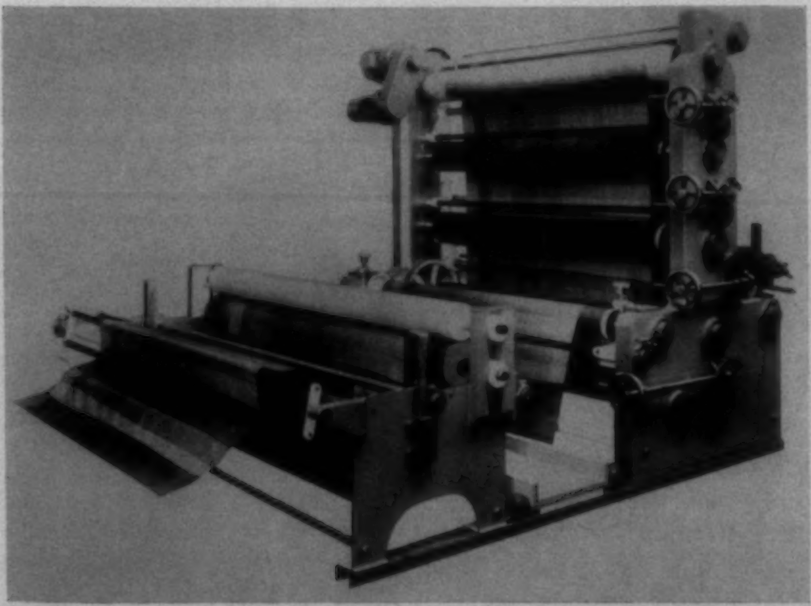
In the first of several functions performed, the fabric is fed through an immersion tank—free of the brushing unit—in which a heating element is located. Here the deep gloss is imparted.

The fabric next moves between squeezing rollers and then, via a stretching device and brake drum, passes along three high-speed brush rollers which perform the brushing. One of these is a hair brush and the other two are copper trimming brushes. In the next-to-last step the fabric is passed through a felt roller to impart the after-gloss and is finally rolled tight and uniformly by a drawing roller.

A fabric tension regulator with a control range of 1-25 determines the intensity of brushing, and the rate of passage of the fabric can be adjusted by means of a variator, irrespective of the speed of the rotating brushes. In addition, the area of contact between the fabric and each of the brushes can be independently adjusted, even to the extent of withdrawing one or more brushes from actual contact. Such adjustments are easily effected by means of a turnwheel and can be read on a graduation for each brush.

Fluff and loose particles are collected in a trough in order that the bolts of textiles may be ready for shipment without further cleaning. And to prevent corrosion staining of fabrics, all parts of the unit which come in contact with the textiles are constructed of stainless steel, ebonite or plastic.

The van Wees wet-brusher occupies a floor area of nine square feet and stands 7½′ high. The brushes are driven by



The van Wees wet-brusher occupies a floor area 9 feet square, stands 7½ feet high.

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a 5-h.p. motor, and the drawing roller and winder by a 2-h.p. motor.

(Request Item No. C-13)

Full Flow Dispensers

New Trico full flow dispensers, introduced by Trico Fuse Mfg. Co., Milwaukee, Wisc., deliver a full flow of oil or other liquids by gravity when valve is opened, through $\frac{1}{4}$" o.d. nylon or metal tubing from a central location. The flow stops when the valve is closed.

Trico or other single or multiple sight feed valves should be used for adjusting the rate of feed since these dispensers have no means for feed regulation, according to the company. Two types are available: one is manually controlled by a shut-off lever at the top of the reservoir, and the other is electric solenoid operated and is completely automatic. When energized, feed starts instantly. When current is shut off, feeding stops.

Made in five sizes: 10 oz., 1 pt., 1 qt., $2\frac{1}{2}$ qts., and 1 gal., the reservoir assemblies are solid brass or brush brass lacquer finished and are available with Pyrex glass or shatter-proof Lucite reservoir cylinders. The liquid supply is always visible and can be quickly refilled through a large self-closing filler cap. A mounting stud and nut for easy installation are also incorporated. These units can be easily taken apart for cleaning and a full line of tubing and fittings are available.

(Request Item No. C-14)

Colored Bobbin Barrels

Laminated plastic bobbin barrels available with various non-bleeding colors to permit quick identification of yarn have been introduced by Taylor Fibre Co., Norristown, Pa.

The colored bobbin barrels are designed to permit instant identification of the yarn by its weight, twist, number of strands, special treatments, plant where made, or any other pre-determined variable. This type of color coding eliminates the need to paint rings on bobbins for yarn identification, according to Taylor.

Colors available are natural, red, green, yellow, blue and black and are supplied by Taylor Fibre on both its paper base bobbin grades and its cotton fabric base bobbin grades.

(Request Item No. C-15)

Potentiometer

A new industrial process potentiometer, called the ElectroniK 17, has been introduced by the Brown Instruments Division of Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.

Designed to incorporate an extremely accurate, trouble-free electro-mechanical strain gage as a rebalancing element, it is described as a scientific break-through in precision measurement and recording. By elimination of the slidewire, limitations of turns are no longer a factor, according to the firm.

The potentiometer, which can be mounted in a standard 19-inch relay rack, consists of a single pen strip, a circular chart recorder and a circular scale indicator.

The primary feature of the potentiometer is the Stranducer or strain gage. It is designed to vary the output potential of the measuring circuit to balance the input signal from the process variable. The Stranducer is enclosed in an I-shaped frame which supports and anchors internal components.

Four looped-wire strands form the variable resistance legs (Wheatstone Bridge) of the measuring circuit. These

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Two officials of the Brown Instruments Division of Minneapolis-Honeywell examine the Stranducer strain gage which is the primary feature of the division's new potentiometer.

are attached to an insulated block at the I-frame base which acts as a heat sink. The free ends of the wires are soldered to the strain gage terminal board.

The upper section of the I-frame houses a horizontal torsion pivot which provides a true turning radius for precise operation. The central portion of the pivot consists of a hub over which the four wires are looped. An arm attached to this hub is driven by a cable, linked mechanically to the balancing motor through two stages of drum and sector reductions.

Drum and sector are kept under tension at all times by the torsional force of the pivot and an additional spring. Any change in position of the balancing motor causes torsional movement of the pivot.

A change in input to the ElectroniK 17 drives the motor in one direction or the other, increasing tension on two of the Stranducer wires while decreasing it on the other two wires. This changes the electrical resistance of the wires and continues to change it until the bridge is electrically rebalanced. At this point, the motor stops moving.

Movement of these wires is extremely slight but precisely proportional to the degree of shaft rotation. The pen carriage is linked to the balancing motor, and the same movement that balances the bridge also positions the pen or indicator.

The strain gage consists of materials —wires, films or other metallic or non-metallic elements — which change resistance as stress is applied to them. Generally, the strain gage material is a metal wire suspended or bonded in the

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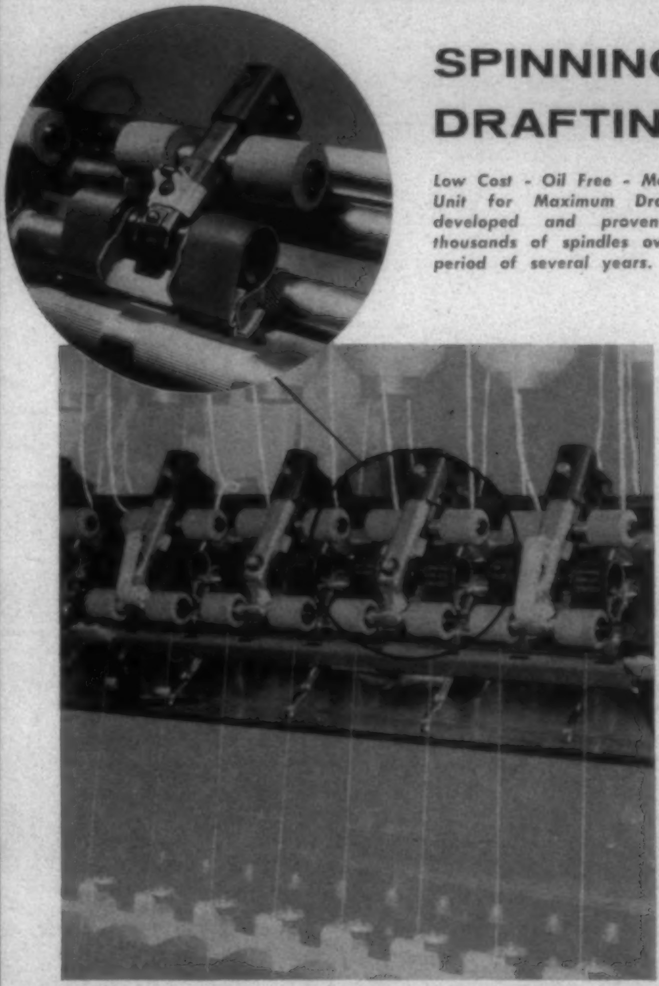

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manner in which it will be stressed.

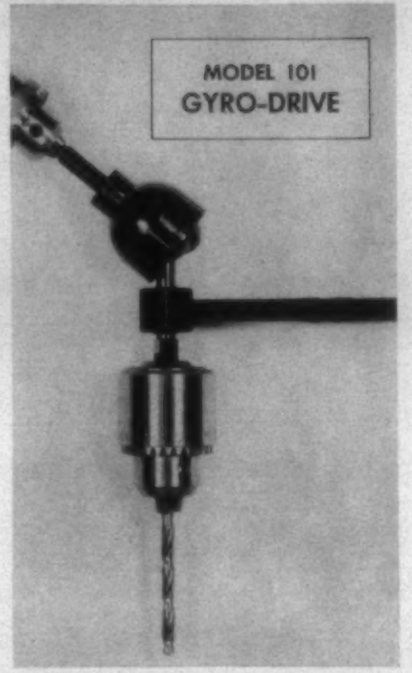
Other unique features of the ElectroniK 17 are: (a) an amplifying system providing critical damping and optimum response for high impedance actuations; (b) thermally compensated electrical networks to minimize zero shift due to temperature change; and (c) cascaded zener diode network providing a constant current to the measuring circuit and eliminating the need for periodic standardization.

A new plug-in converter and modular construction (parts of the instrument are interchangeable with other machines of the same type) are also features of the ElectroniK 17.

(Request Item No. C-16)

Universal Drive For Drill

A new precision universal drive, the Gyro-Drive, has been introduced by Glenwood (Minn.) Gyro-Drive Inc. It is a full-power, full-speed drive, designed for drilling at any angle up to 52°.



The Gyro-Drive universal drive fits all models of power drills, ¼" or ½" capacities.

The Gyro-Drive measures less than 6" overall and weighs approximately 12 oz. It is reported to work safely and firmly at full power with no bulky gear box to install or handle.

Gyro-Drive fits all models of power drills, 1/4 or 1/2" capacities, and may be permanently installed on the drill by requesting a special adapter, priced at 29 cents, or by attaching the chuck with an additional chuck added at the operating end.

The unit is a precision tool made for heavy and steady duty, rigorously tested in actual practical service. Gyro-Drive can be mounted directly into any drill spindle with 3/8" and 24 male or female thread. It has a removable hand grip bar to be used when drilling in metal or masonry where extra pressure or control is needed. The unit is also furnished with threaded sleeves permitting use of either 1/4 or 1/2" chucks.

(Request Item No. C-17)

Multi-Bearing Take-Up

Eleven new multi-bearing take-up frames introduced by the Link-Belt Co., Chicago, Ill., have been designed to accommodate any type of bearing—babbitted, bronze, ball or roller—in any 2-bolt pillow block with mounting holes up to 5/8".

The new frames allow horizontal bearing adjustments from 6 to 24" and will mount 143 different bearing shaft

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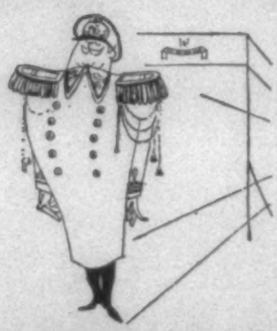

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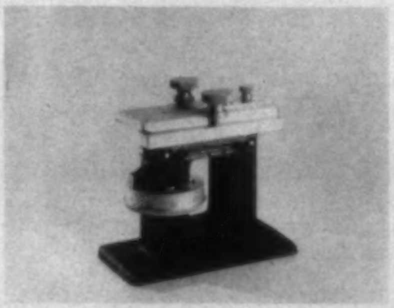
sizes from $\frac{5}{8}$ to $2\frac{1}{16}$" dia. Mounting pads are easily adjusted to the mounting holes in the pillow block. One pad is moved by an adjusting screw, while the other pad slides freely to the proper distance between the pillow block mounting holes. This mounting flexibility is designed to permit each size of take-up frame to accept a wide range of pillow block bore sizes. Mounting bolts are zinc plated and washers and nuts for mounting the pillow block are furnished with each frame.

The all-steel frames have strong channels that form a rugged box frame with high rigidity. Channels also protect the adjusting screw and provide easy access for lubrication and cleaning. The large diameter adjusting screw is zinc plated for maximum protection against rust. Mounting feet, formed from heavy gauge steel, have two stiffening ribs for added strength and the pillow block mounting pads are of one-piece steel welded construction, Link-Belt reports.

(Request Item No. C-18)

Cross-Sectioning Device



An aperture of .125" x .312" which is capable of holding the complete sliver of wool or mohair top is featured on this unit for the cross-sectioning of test samples.

A cross-sectioning device designed to prepare test samples of wool or mohair tops with A.S.T.M. designations of D 472-56 and D 1381-57T, respectively, has been introduced by Mico Instrument Co., Cambridge, Mass.

Called the Mico Fiber Microtome Model 202, the instrument has an aperture of .125" x .312" that is capable of holding the complete sliver of wool or mohair top for cross-sections in preparation for microscopic tests.

The top cutting plate is .25" thick and is chromium-plated steel, thus making it possible to obtain additional quantities of longer specimens from the same sample of material. The design of the precision feed screw and graduated drum make it possible to accurately control the length of each group of specimens being sectioned and to make additional sections when required.

A few drops of carbon tetrachloride are used to moisten the bundle of fibers before sectioning and then they are cut with a sharp razor blade, using a diagonal motion. The carbon tetrachloride is allowed to evaporate before transferring the fiber pieces adhering to the edge of the razor blade to the microscopic slide.

(Request Item No. C-19)

New Resin For Printing

Low crocking, improved washfastness, freedom from discoloration, and superior resistance to cyclic aging are features claimed for an acrylic polymer developed by Rohm & Haas Co., Philadelphia, Pa. The product, formerly known as Experimental Dispersion HA-773, has now been given the commercial name Rhoplex B-27 and is supplied as a non-ionic milky emulsion of 45% active ingredient. Excellent mechanical stability of the emulsion offers great versatility in compounding, formulating and processing of various print systems, according to the company.

Rhoplex B-27 may be effectively utilized in both roller printing and screen printing, with either oil/water or water/oil systems. The product is also proposed for bonding of nonwoven fabrics to obtain excellent fastness properties with stability to heat and ultraviolet exposure.

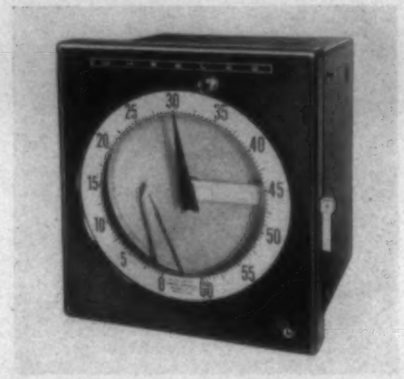
In oil/water printing formulations, the new resin increases the cyclic aging resistance of the color without introducing discoloration during processing or aging. This aging stability is of special significance when fabrics are used in such applications as draperies, where service conditions involve prolonged exposure to the sun followed by laundering. Fabrics treated with the new resin are said to exhibit remarkable resistance to crocking and color degradation when subjected to repeated cycles of sun exposure and laundering.

As a bonding agent for nonwoven fabrics, Rhoplex B-27 is said to offer excellent fastness properties, softness of hand and stability with regards to hand and color. Crosslinking with thermosetting resins substantially enhances the product's resistance to commercial laundering and drycleaning as well as offering additional crease resistance. The resin may also be used as a hand modifier for resin-treated fabrics.

Rhoplex B-27 is listed at 25 cents per pound in truckload drums; and 25½ cents per pound in less than truckload drums.

(Request Item No. C-20)

Controllers



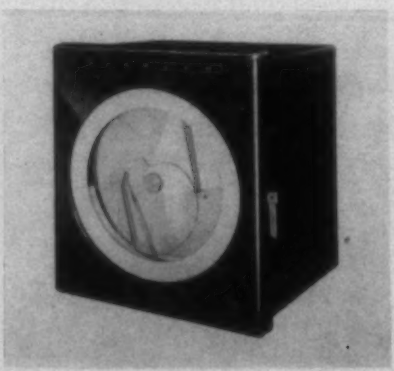
This Double-O round chart recording and indicating controller features a 32" scale which gives .5% accuracy for all scale spans in pyrometric range.

Barber-Colman Co., Rockford, Ill., has added two new controllers to its instrument line. One is the Double-O, a round chart recording and indicating controller, and the other is a cam-operated program controller.

The Double-O incorporates all of the popular and high quality features of the Wheelco Electronic Potentiometer line into one full-sized recorder-controller line, according to the company.

The new units are completely self-contained, null-balancing instruments requiring only external sensing devices. With the proper circuitry and the use of transducers, the firm reports that such variables as speed, strain, hydrogen ion (pH) and other quantities which can be resolved into electric signals can be recorded and controlled.

A swing-away design allows easy access for quick change of range, control form, cross chart speed, charts and all major or adjustable components. All operational servicing is said to be accomplished in minutes.



Control of temperature, speed, strain, flow or any variable which can be resolved into a millivolt signal is possible with this cam-operated program controller.

Other features of the Double-O are a 32" scale, which is stationary with only the set point and control point moving; gives ½ of 1% accuracy for moving; a ½ of 1% accuracy for all scale spans in pyrometric range; all ranges down to five M.V. full scale are available; and incorporates the zener diode for standardization.

The cam-operated program controller can control temperature, speed, strain, flow or any variable which can be resolved into a millivolt signal.

Design simplicity, complete flexibility, close control, precise time patterns, fast and convenient accessibility, reliable set point action and operational use are a few of the many features, according to the company.

The controller is designed to control predetermined time patterns. Full-scale rise can be accomplished in 30° rotation. The cam contour is picked up by a cam follower arm. Position of the arm is

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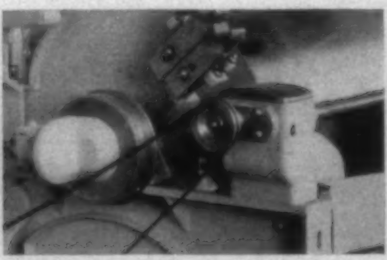

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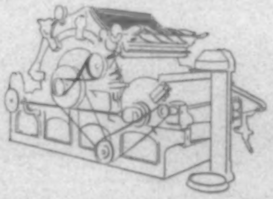

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Springfield, Mass.
Birmingham, Ala.
Greenville, S. C.
Chicago, Ill.
Charlotte, N. C.
Detroit, Mich.
Columbus, Ga.
Providence, R. I.
St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

HEARTIEST CONGRATULATIONS TO TEXTILE BULLETIN ON ITS 50TH BIRTHDAY

transmitted through an electronic link to the set point which is connected to the control form.

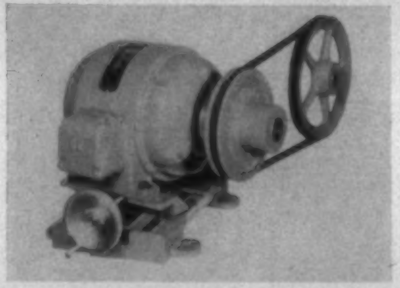
The round chart can be removed at any time without interfering with the program cycle. All components are quickly and conveniently accessible. The hinged chassis opens wide for easy maintenance. The cam support and drive arm unit swing out from the main frame a full 90° for easy chart change. The frame chassis swings out 120° for easy accessibility.

A synchronous motor, equipped with a start-up switch, drives the chart and cam. The cam can be driven independently if desired, and the case can be either flush or surface-mounted.

(Request Item No. C-21)

Adjustable Motor Bases

Speed Selector Inc., Chagrin Falls, Ohio, has introduced a new line of adjustable motor bases designed to meet the demand for a simplified, low-speed, economical variable speed drive. Available in two models, MB-11 and MB-12, these adjustable motor bases may be used with Speed Selector standard M-type spring-loaded sheaves to provide a complete drive for low-speed applications in capacities from ¾ to 10 h.p.



Speed Selector's adjustable motor bases are available in Models MB-11, MB-12.

Speed variation is accomplished by a simple handwheel control, but remote control can be provided if desired. The speed indicator and comparator scale facilitate setting the drive at any desired speed and the screw type control is self-locking.

The design of these motor bases is said to permit their use in an angular position. This maintains proper belt alignment and assures longer belt life. While the bases were designed for use with Speed Selector sheaves, other sheaves having equal linear motion of both faces may be employed.

The units are made of high quality cast iron, precision machined to close tolerances, according to Speed Selector. There is a minimum of maintenance and the slides are easily cleaned and lubricated, the company reports.

Bulletin No. 95 gives full details on the line and includes a table for easy selection of the proper sheaves, adjustable motor base and belt size.

(Request Item No. C-22)

Polyethylene Tank

Designed for mixing and storage applications in the textile industry, a huge 350 gal. polyethylene tank with wall thicknesses of only $\frac{5}{16}$″ has been produced by the Spencer Chemical Co.'s Thermofusion molding process. Measuring 46″ wide and 52″ high, with self sustaining walls, it is the largest tank produced by this method. It was molded by the American Agile Corp., Cleveland, Ohio.

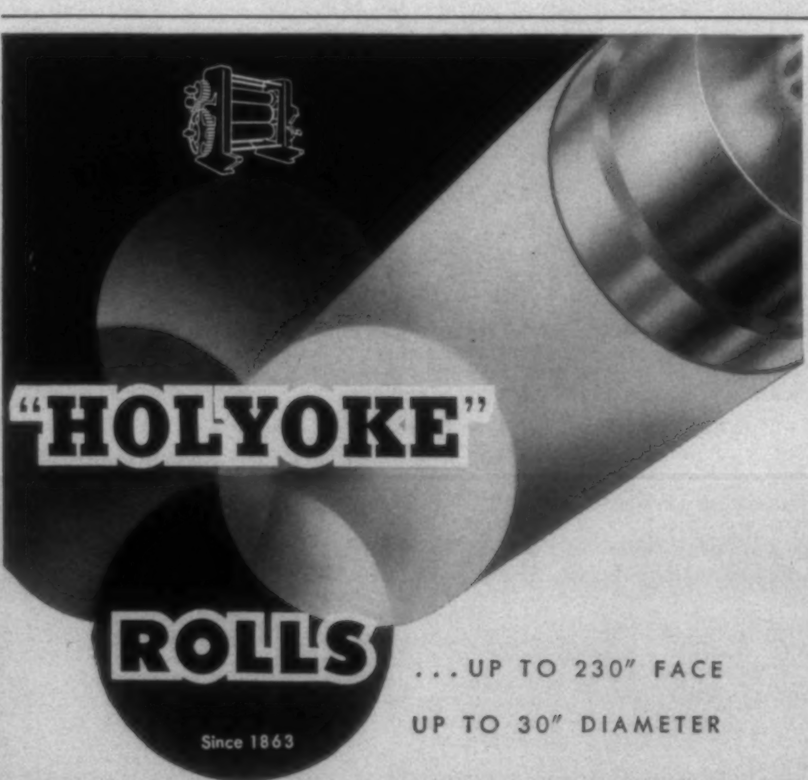
Principal advantages cited for the colorless, translucent tanks are easy cleaning, long service life, light weight and complete resistance to most all concentrated acids.

(Request Item No. C-23)

Lineal Measuring Device

Standard Instrument Corp. of New York City has introduced a lineal measuring device with photo-electric sensor. The unit is available in models for measurement and control in yards, feet, tenths of feet or inches.

The basic advantage in photo-electric measurement is the elimination of load drag inherent in mechanical registers, resulting in greater accuracy. The counter also provides instantaneous measuring, counting and recording opera-



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PASTELS
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provide vat-dye permanence with direct application

ALGOSOL dyes are readily water-soluble and avoid time-consuming preparation...present attractive vat shades in simplified application...dye with superior penetration, levelness, and shade control...yield colorfast dyeings and prints.

Suitable for most types of dyeing equipment, Algosol dyes bring—to cottons, wools, rayons, and synthetics—outstanding vat-fastness to sunlight, washing, bleaching, and rubbing.

Find out how Algosol dyes can facilitate and improve your production of dyed or printed textiles.

Write to our Technical Service Department or nearest sales office.

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A DIVISION OF
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CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO • IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

ALGOSOL DYES, MANUFACTURED BY GENERAL ANILINE & FILM CORPORATION, ARE SOLD OUTSIDE THE UNITED STATES AND CANADA UNDER THE TRADE NAME "FENANTHRA," BY DISTRIBUTORS ALL OVER THE WORLD.

tions. It is available with pre-set counters, capable of operating at high production speeds, Standard reports.

Multiple, predetermined settings may be selected as desired for sequential operation. Called the Footage Counter, the device is said to perform these measurement functions: cut off, marking, measurement (production), triggering of preset sequence of cycles (repetitively), and the provision of a permanent production vs. elapsed time.

Models are available with magnetically actuated pickups for applications where large amounts of dust or lint interfere with sound photo-electric practice.

(Request Item No. C-24)

New Cellulosic Dyestuff

Cuprofix Black C-FBL Pat., a new, homogeneous, after-coppering dyestuff for dyeing bluish blacks on cellulosic fibers, has been introduced by Sandoz Inc., New York City. The dyestuff is said to have very good light fastness and to be stable to resin finishing. It is highly soluble, and is suited for padding processes including the pad-roll system, and for high-temperature dyeing. Cuprofix Black covers dead cotton and dyes level on barre' viscose.

(Request Item No. C-25)

Five Dyes For Synthetics

Eastman Chemical Products Inc., New York City, subsidiary of Eastman Kodak Co., has introduced five new dyes for synthetic textiles. Four of the dyes are for polyester fibers and the fifth is for acrylic fibers. They are: Eastman Polyester Brilliant Red FFBL, Dark Brown GL, Brown 3RL, Navy Blue RL and Eastacryl Blue 5GL.

Brilliant Red FFBL, a blue shade of red, is the brightest red in Eastman's line of dyes for polyester fibers. It is said to exhibit excellent light fastness and very good fastness to washing and perspiration. Used in dyeing wool and polyester blends it stains the wool only slightly in heavy shades.

Dark Brown GL was developed particularly for men's wear. It produces neutral tans to full dark brown shades exhibiting excellent fastness to light, washing, crocking and perspiration. Dark shades can be produced economically due to the dye's very favorable build-up characteristics, Eastman reports.

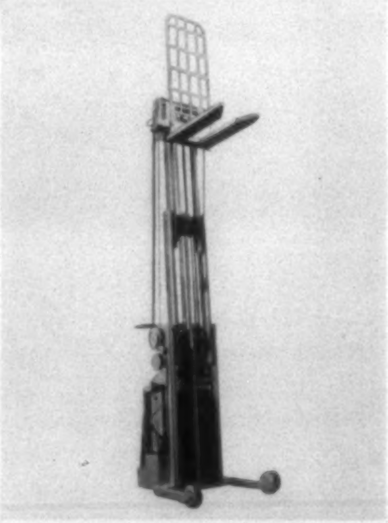
Brown 3RL is described as a strong orange shade of brown which stains wool to a lesser degree than do most orange dyes. It is suggested for replacement for oranges, reds, or yellows in achieving deep brown tones on wool and polyester blends. In lighter shades it also contributes excellent light fastness.

Navy Blue RL is said to provide exceptionally good color value in obtaining full bright shades of navy blue. Its build-up characteristics are excellent as is its fastness to light, washing, crocking and perspiration, according to Eastman.

Eastacryl Blue 5GL, a cationic dye for acrylic fibers, provides brilliant green shades of blue which do not flare red under artificial light. It exhibits excellent wet fastness and light fastness. It builds up well in heavy shades and is compatible with other basic dyes.

(Request Item No. C-26)

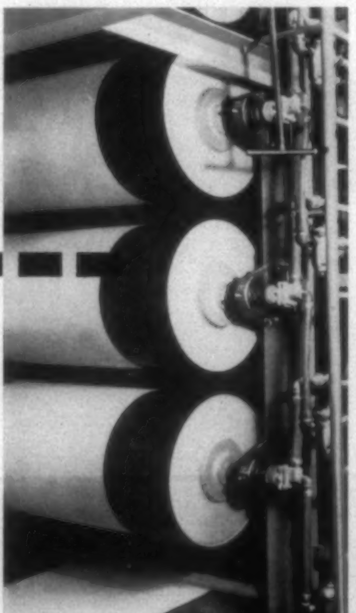
Narrow Aisle Lift Truck



A 24-volt, narrow aisle Model MN AisleMaster truck, hydrafork style, equipped with a Tri-Lift mast assembly and tilting forks has been introduced by Lewis-Shepard Products Inc., Watertown, Mass. The Tri-Lift mast design allows loads to be lifted to ceiling heights from narrow aisles for maximum storage accommodation.

The tilting feature of the Hydraforks enables loads to be tipped back and cradled against the back rest for maximum safety during transporting and high stacking operations.

(Request Item No. C-27)



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For the Mill Bookshelf

Hot Water Converters

A 20-page, illustrated bulletin published by Niagara Weldments Inc., Niagara Falls, N. Y., presents a new line of NiaWel hot water converters designed specifically for space heating service.

In addition to listing complete specifications covering 114 models in 2 and 4-pass arrangements, Bulletin 71 fully describes A.S.M.E. construction of shells and removable U-tube bundles, metals and alloys available for special fabrications, and provides information for ordering models of other-than-standard size or construction.

Also included is a unique, graphically illustrated method for selecting the correct size shell and heating surface.

(Request Item No. C-28)

Direct Radiant Heating

Its line of electric infrared comfort heaters for direct radiant heating are described in an 8-page bulletin, CH-100, published by the Fostoria Corp., Huntingdon Valley, Pa.

The new line is said to heat hard-to-heat indoor and outdoor areas without heating the intervening air. The bulletin gives applications, principles and advantages of the electric infrared comfort heating.

(Request Item No. C-29)

Timing-Belt Drives

A new catalog designed to provide the information needed to select the proper timing-belt drive with minimum arithmetic is available from T. B. Wood's Sons Co., Chambersburg, Pa.

The 80-page catalog, No. 19103, features a series of copyrighted charts to provide graphic solutions in place of tedious numerical calculations. One chart enables graphic selection of the proper pitch— 1/5, ⅜, ½, ⅞ or 1¼″ —from the factors of design horsepower and speed of the pulley of largest r.p.m.

Full-page drive-width selection charts are also given for each of the five pitches. Twenty-seven pages of drive tables allow determination of driven pulley and belt pitch length when the speed ratio and driver pulley are known. If drive motor is either 1,160; 1,750; or 3,500 r.p.m., the speed ratio may be obtained without calculation, directly from these tables. Though the pulley combinations given are for conventional speed-reduction ratios, the tables can also be used for speed-up ratios.

(Request Item No. C-30)

Glass Drain Lines

A revised and expanded 16-page catalog, PE-30, which gives detailed information on the Pyrex Brand "double-tough" drainline has been published by Corning Glass Works, Corning, N. Y.

The illustrated brochure contains product and property data and lists advantages of the corrosion-resistant glass system for disposal of chemical wastes. It also contains full details on available fittings. Photographs, schematic drawings and charts are included along with a sample specification sheet.

(Request Item No. C-31)

Dyeing Machines

A new 6-page brochure pertaining to specifications and types of dyeing machines has been issued through the Klauder Weldon Giles Machine Co., Philadelphia, Pa.

A specifications sheet and a dyeing machine brochure are included. Illustrated with photographs and drawings, the brochure describes the various models of dyeing equipment that the firm has available. The specifications sheet covers the information needed to replace any or all parts on one of the company's skein dyeing machines. Charts give the necessary data on any of the firm's line.

(Request Item No. C-32)

Textile Testing Price List

U. S. Testing Co. Inc., Hoboken, N. J., is making available a new price list covering its services in the textile field.

Some of the services included in the list are abrasion, aging, carpet, colorfastness, and hosiery testing; fabric construction and performance; fiber identification and composition; slide fastener tests; wash-and-wear tests; and defect studies.

(Request Item No. C-33)

Chemicals Catalog

Dodge & Olcott Inc. of New York City has issued its new price catalog of essential oils, aromatic chemicals and specialties, and certified colors. This 36-page booklet includes short descriptions and uses of various products, as well as addresses of the various branch offices.

(Request Item No. C-34)

G. E. Price Catalogue

The General Electric Co., Plainville, Conn., has released its latest Buy Log, GEC-1100C, a 92-page catalog covering low-voltage distribution equipment. Designed to serve as a condensed buying catalog for G.E. products, the publication provides complete buying information on heavy-duty safety switches, current-limiting fuses, hinged wireway, circuit breakers, switchboards, motor control centers, power distribution centers, and all types of panelboards and busway.

Among the features of the catalog are: product selector charts, descriptions, consolidated pricing tables, and a catalog number index. Also included are ratings, weights, dimensions, standard package quantities, ordering directions and general application information.

(Request Item No. C-35)

Bearings And Rod Ends

Catalog 101 issued by Split Ballbearing, division of MPB, Lebanon, N. H., describes the Alinabal line of spherical bearings and rod ends.

The bearings are applied in a wide variety of mechanisms, usually in linkage systems where misalignment must be accommodated. The publication describes construction features of the line which permits sustained rotational operation. Sometimes the units are applied in crank mechanisms where pounding loads and speeds exceed the capacities of conventional rod ends.

The bulletin describes how the Alinabal bearings feature a precision ground, through hardened steel race around on oil-impregnated sintered metal balls. Illustrations and charts give data concerning specifications for all of the Alinabal line.

(Request Item No. C-36)

Gas Chromatography

Burrell Kromo-Tog, Model K-7, a new ionizing instrument for gas chromatography is described in Bulletin No. 841 from Burrell Corp., Pittsburgh, Pa.

Illustrated with photographs and line drawings, the 8-page bulletin presents the highlights of ionization detection in gas chromatography and explains the merits of temperature programming, an exclusive built-in feature of the new unit.

Also described are a potentiometer recorder, vacuum pump, fractionating columns, fraction collecting kit, constant-temperature air bath and a flame-type ionization detector; all designed as standard accessories for the Kromo-Tog, Model K-7.

(Request Item No. C-37)

Textile Encyclopedia

The 8,000-year history of textiles and all its fibers, designs and processes is graphically told in "The American Fabrics Encyclopedia of Textiles," published by Prentice-Hall. The new encyclopedia is reported to be the most authoritative, up-to-date, single-volume source work covering the entire textile field.

The book uses more than a thousand black and white illustrations and has 16 pages in full color showing some of the finest textile craftsmanship done through the centuries in both West and East.

The encyclopedia is divided into seven main sections: (1) "The Textile Fibers," including a thorough treatment of the new scientific fibers; (2) "History and Origins," telling the story of the industry; (3) "Textile Design," illustrating the world's historic textiles; (4) "The Manufacturing Processes," containing comprehensive treatments of spinning, weaving, knitting, lace-making, felts and nonwovens; (5) "Fabric Finishing," with detailed discussions of all the modern processes, the story of color dyes and dyeing, plus a review of textile printing in its many forms; (6) "Specialty Uses of Textiles," covering non-apparel fabrics such as curtains, draperies, rugs, carpets, sheets, quilts and industrial fabrics; (7) "Textile Definitions," 90-page dictionary of important terms in textile usage.

Each section of the encyclopedia was prepared under the guidance of experts in special areas of textile knowledge. Copies may be obtained from Prentice-Hall Inc., Englewood Cliffs, N. J., for $39.50 per copy.

A.S.T.M. Test Data

The 1960 edition of the compilation of Standards on Textile Materials, published by the American Society for Testing Materials, Philadelphia, Pa., contains 139 standards of which 24 are new, revised, or have had their status recently changed.

Among the new standards are: Test for Neps in Wool Top; Test for Imperfection Count of Textile Yarns; Method of Testing Elastic Fabrics; and Test for Colorfastness to Commercial Laundering and to Domestic Washing of Tufted Rugs and Carpets.

Topics covered in the compilation include: wool textiles; man-made fiber textiles; glass textiles; cotton textiles; bast and leaf fiber textiles and kraft yarns; tire cord; carpets; hosiery, and nonwoven fabrics. In addition the volume contains standards on: terms and definitions; conditioning; sampling; qualitative and quantitative analysis; and resistance to insects and microorganisms. Fibers, fabrics, yarns, threads and cordage are also covered. Fourteen appendices and additional related material are included in this volume.

Copies of the book are available from A.S.T.M. Headquarters, 1916 Race St., Philadelphia 3, Pa., at $9.75 each.

Quality Control

A new book entitled "Quality Control" and written by N. L. Enrick of the Institute of Textile Technology, Charlottesville, Va., has been published by the Industrial Press. This fourth enlarged edition contains 232 pages.

Included in the book for the first time is the statistical analysis in establishing tolerances for rigid requirements in wash-and-wear. Other new features are evolutionary operation for process improvement, illustrated from a slashing-weaving application, and revised data on process variations analysis, illustrated from a card room case history. About a third of the material pertains to the textile industry while the remainder discusses other industries.

Copies of the book may be obtained from The Industrial Press, 93 Worth Street, New York 13, N. Y., at $5.50 per copy.

Labor Arbitration

The Bureau of National Affairs Inc., Washington, D. C., has published a complete revision of "Arbitration of Labor Disputes" by Clarence M. Updegraff. The book is designed to serve as a practical and not-too-technical exposition of the law of arbitration for the layman. The revised edition brings up to date the procedural and substantive developments in labor arbitration.

The volume deals with basic matters such as the history and function of arbitration as well as applicable laws and technical procedural rules. Included is a 26-point checklist for use in the preparation for arbitration and hearing procedure.

Other chapters in the volume cover the selection of arbitrators, agreements to arbitrate, technical rules of evidence, enforcement of arbitration awards and the areas in which arbitration is used.

Copies of the book are available at $8.50 each from the Bureau of National Affairs Inc., 1231 24th St., N. W., Washington 7, D. C.

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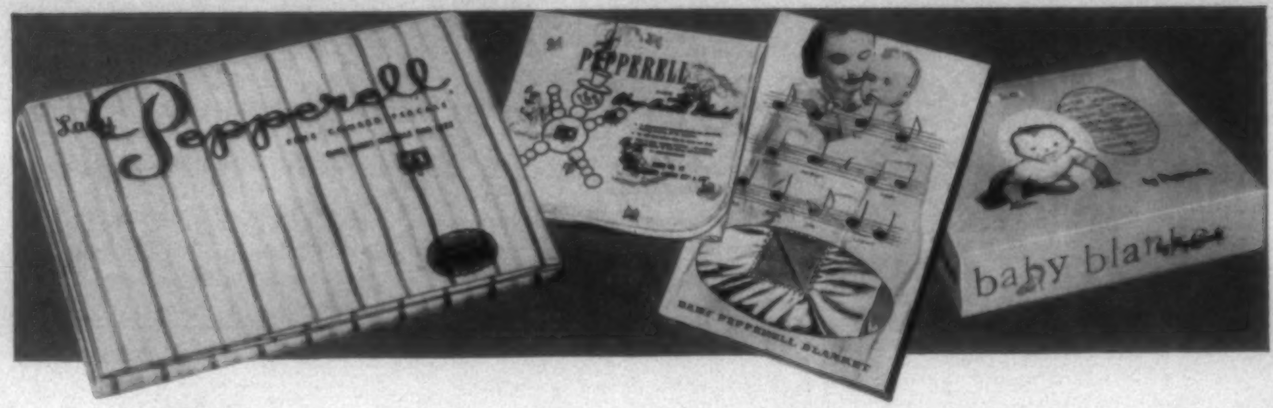

Together . . . for over 50 years!

Pepperell Manufacturing Company in textiles; American Moistening Company in air conditioning . . . *both* are well-known not only to the trade, but to each other! For it was over 50 years ago that the first Amco installation was made in a Pepperell mill. Moreover, it's a business association which has continued active right up to the present.

Amco's developments in improved methods of air conditioning today include a full list of carefully engineered devices, as well as *all* types of systems. So whether *your* requirements are for humidification alone; or in combination with cooling, such as in a ductless evaporative cooling system; or for a unit dry-duct system; or central station air conditioning . . . Amco can offer you the *right* system, composed of quality components, and based on engineering backed by seventy years experience in textile air conditioning.

Call on Amco for reliable advice. Amco engineers will be glad to suggest a solution to any air conditioning problem you may have. There is absolutely no obligation.

Amco cooling and ventilating installation in spinning room of Pepperell plant.

Some departments in the mill use straight humidification with Amco atomizers.

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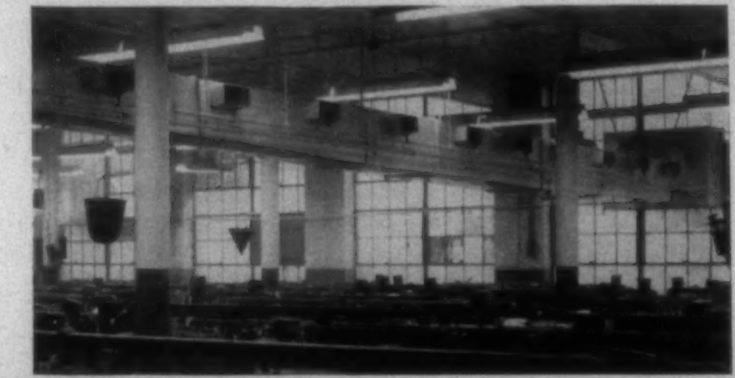
Amco unit dry-duct system installed in weave room.

Serving The Textile Industry

Roberts Reports Sales Up 40% In 1960 Fiscal Year

In the fiscal year ended December 3, 1960, the Roberts Co., Sanford, N. C., showed a net profit of $202,714 on sales of $7.4 million against profits of $60,529 on sales of $5.3 million during the same period in 1959.

Prior to 1960 Roberts sold only spinning and twisting machines and modernizations. During the year, the synthetic fiber transforming and blending fields were entered and roving machinery for both cotton and worsted-synthetics was also added to the product line.

The company reports that its English licensee serving the European and Middle Eastern countries has completed tooling and royalty income will start in 1961.

Engineering studies have been completed at the company and an additional 105,000 square feet will soon be added to the present facilities. Heretofore, the company had leased properties from other concerns.

Enka Raises Price Of High Tenacity Industrial Rayon

American Enka Corp., Enka, N. C., has announced higher prices on all of its rayon high tenacity industrial yarns, including Tyrex rayon yarns for tire cord.

The increase is two cents per pound on all deniers and shipping packages. It was pointed out that Enka's new Tyrex rayon yarn price is still 15% below the mid-1959 price.

A. E. Staley Starts Up Plant To Fractionate Starch

A production process for separating pure amylose and amylopectin fractions from ordinary dent corn has been introduced by the A. E. Staley Mfg. Co., Decatur, Ill. A pilot plant has been completed and put into operation at Decatur and is now fractionating starch.

Dr. Thomas L. Gresham, vice-president for research and development, said that this new process will make amylose and amylopectin fractions of ordinary corn available in quantity for the first time to develop new products and commercial applications.

The company reports that starch refined from dent corn is about three-fourths amylopectin and one-fourth amylose. Genetic cross-breeding has pushed the amylose content up into the 50% range in some experimental plantings, but separating it from the large amylopectin fraction has not been considered commercially feasible before.

Possibilities for the amylose are transparent films, plastics, coating applications of all sorts and fibers and filaments. Intermix possibilities in the whole range of industrial starch applications are being explored.

Cotton-McCauley Named Bijur Southern Agent

Cotton-McCauley & Co., Pawtucket, R. I., has been appointed Southern distributor for the Bijur Lubricating Corp., Rochelle Park, N. J.

Bijur manufactures automatic lubricating systems and is a supplier to many textile machinery companies. Cotton-McCauley will be the distributor for the firm for direct sales to textile mills in the U. S. and Latin America. The company maintains offices in Charlotte, N. C., and Atlanta, Ga., plus a service shop in Greenville, S. C.

Paper Products Places Its Mobile Plant In Operation

Textile Paper Products Inc., Cedartown, Ga., has placed its Mobile, Ala., plant in production. The plant will produce a complete variety of paper cones and tubes for the textile industry.

E. P. Tinker is manager of the 33,000-square-foot plant and other key personnel are from other operating divisions of the company.

Eastman, Huels To Make Polyester Fiber In Germany

The Tennessee Eastman Co., Kingsport, Tenn., has entered an agreement with a West German firm, Chemische Werke Huels A.G. of Marl Westphalia, for the production of polyester fiber.

The new enterprise will be known as the Faserwerke Huels G.m.b.H. and will eventually produce the fiber at a new plant now under construction. Faserwerke will make the fiber immediately available by using the Kodel polyester fiber from the U. S. because of the time delay caused by the construction.

Leesona, European Firm Agree To Exchange Ideas

An exclusive agreement to exchange technical information on thermoelectric materials and devices has been signed by the Patterson Moos research division of Leesona Corp., Cranston, R. I., and Compagnie Generale de Telegraphie Sans Fil (CSF) of Paris, one of the leading electronics companies in Europe.

Since 1956, Leesona Corp. has been engaged in a continuing development program on fuel cells with the National Research Development Corp. of England. It extended its fuel cell activities in August 1959 by entering into a joint research and development program with the Pratt & Whitney aircraft division of United Aircraft Corp.

First Profits Since 1956 Reported By Saco-Lowell

Saco-Lowell Shops, Boston, Mass., reports a net profit of $2.3 million on sales of $41.7 million for the fiscal year ended November 30, 1960. This contrasts with a net loss of $1.9 million on sales of $27.5 million in 1959. No provision for income tax was necessary because of loss carry-forward. This was the company's first profit since 1956.

The company reports that in the textile machinery divisions, the operational efficiency of its plants in the Carolinas showed marked improvement and demonstrated the advantages of relocation in the South.

Favorable attention was commanded at home and abroad by Saco-Lowell's new product additions. Foreign sales were higher than in recent years and the company's licensing arrangements with foreign manufacturers continued to develop in a satisfactory manner. Replacement parts sales were said to reflect the beneficial effects of aggressive merchandising.

Overall profits for the current year

"Dillard paper cleans better!"

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1926 "IF IT'S PAPER" 1961

will depend on developments in the textile machinery divisions of the business that cannot be foreseen at this time well enough to make a forecast, the company reports.

On the basis of scheduled shipments and the backlog of orders, Saco-Lowell reports that profits during the first half of this year will probably be lower than profits for the last half of 1960. Tooling and other major non-recurrent expenses on non-textile products should be smaller in 1961 than in 1960.

Celanese To Manufacture Chemicals From Petroleum

Celanese Corp. of America, New York City, has announced that it will make chemicals from petroleum resources by a new European process. The process is designed to provide a new route for the economical manufacture of acetyls, a family of chemicals formed by certain combinations of oxygen and petroleum gases. Celanese has licensed the process from Aldehyd G.m.b.H., a company jointly owned by Farbwerke Howchst and Wacker Chemie, in Germany.

The new process will be used at a multi-million-dollar plant to be built on a 1,000-acre site near Bay City, Tex. Construction is scheduled to start in the second quarter of 1961 and will be completed within a year, according to the company.

With the new process, Celanese plans to produce additional chemicals and increase production volume for a rapid entry into new markets and for meeting growing demand in established markets.

Celanese Corp. stated that the process involves the combination of oxygen with ethylene gas in the presence of a catalyst. Oxygen is abundant and therefore the plant is to be built as close to the source of petroleum as possible, reports the firm.

Initial facilities at Bay City also will include units for the making of 2-ethyl hexanol. The company's 2-ethyl hexanol plant at Bishop, Tex., will be moved to the new one upon completion.

Chemstrand Dedicates Research Center

Formal dedication of the Chemstrand Corp.'s new $7.5 million research subsidiary — Chemstrand Research Center Inc.—was held February 1 at the new facility in the Research Triangle Park of North Carolina.

Organized in the Fall of 1959, the center will serve as Chemstrand's fundamental research arm. Construction of the new facilities and the subsequent relocation of research personnel and equipment from Decatur, Ala., marked a major milestone in the ten-year growth pattern of Chemstrand.

Measurements as close as one part in 22-trillion are possible with this complex scintillometer being used at Chemstrand Research Center. Radio-isotopes are used to tag atoms in a chemical compound. The tagged atoms are then measured for location in the molecule. Such investigations are expected to play a vital role in Chemstrand's search for new and improved fibers for the textile industry. Of the $7.5 million invested in the new research facility, some $2 million went for equipment.

The new center is a modern structure of steel, glass and brick, containing more than 190,000 square feet of floor space and designed to accommodate some 500 persons. Laboratories were designed to implement the latest concepts in efficiency and comfort and are completely air conditioned. The center is designed to accommodate 91 research laboratories, of which 65 are already in operation. These do not include service labs and shops. In addition, there is a modern library containing some 37,000 technical volumes; executives' offices, conference rooms and a cafeteria with a seating capacity of about 250.

Chemstrand Research Center Inc. will devote its efforts toward discovering and developing to the stage of "demonstrated promise" new and improved products and processes of interest and value to the corporation. To accomplish these goals, the center is organized into four major departments — basic, exploratory, products and administration.

Basic research probes into the structure of matter and provides a fundamental knowledge vital to development work. Accumulation of fundamental knowledge establishes the solid foundation so necessary for building research programs.

Exploratory research seeks to find ways of applying this knowledge to emerge with new concepts. From this department come the candidates which some day may enter the market as new products of The Chemstrand Corp.

Products research takes existing fibers and makes them better, applies new finishes or develops ways to impart better dyeability or stronger resistance to wear and other elements. Industrial firms such as Chemstrand invest heavy capital in existing products, and must constantly be alert to opportunities for creating new end-uses — and consequently new markets.

The administrative department provides research service and staff support to the operation of the center. Technical research performs both research and service and has teams working to improve methods for fiber characterization and to develop better methods for instrumentation and testing. Other specialists in this department keep an eye and ear trained on technical developments in other areas of the nation and world. Staff units such as personnel, purchasing, community relations, engineering, safety and accounting contribute important roles toward completing the overall center staffing. Represented among Chemstrand personnel are chemists, physicists, engineers and technicians and specialists of wide varieties.

Some 21 sites were considered before Chemstrand selected the Research Triangle Park as the location for its new center. Nestled in rolling hills heavily wooded with Southern pine and hardwoods, the Research Triangle Park is centered in a geographical triangle formed by the cities of Raleigh, Durham and Chapel Hill. The leading educational institutions in these cities engendered the now famous "Research Triangle" designation. Raleigh is the home of North Carolina State College, Durham of Duke University and Chapel Hill of the University of North Carolina.

Industrial Equipment Co. Sales Agent For Venango

The Industrial Equipment Co., Charlotte, N. C., has been appointed Southern sales representative for Venango Engineering Co., Philadelphia, Pa. The Charlotte organization, headed by Alexander F. and John R. Schenck, has long been associated with the textile industry. This appointment will provide Venango customers in the South complete and personal service regarding dyeing, drying and finishing machinery, engineering, installation and maintenance, according to the company.

New Firm To Launch Spinning-Winding Machine

A new firm for the development of a combination spinning-winding machine has been organized in Birmingham, Ala. Called the Starnes Planetary Spinning Systems, it was launched by Earl Starnes, formerly with Russell Mfg. Co., Alexander City, Ala., and Fred F. Phillips of Buck Creek Cotton Mills in Birmingham.

In the partnership, Starnes will concern himself with refinement, improvement, testing and applicability of the machine. Phillips' responsibilities will entail the launching of the product, its distribution, financing, etc.

In addition to the basic patent, one other improvement patent has been received and four others are pending. These all deal with improving the speed of the unit and making it applicable to the entire range of fabrics.

In the machine, there is no ring and traveler combination which has been the traditional barrier with 7,000 f.p.m. speeds. Nothing turns except the flyer and ballooning yarn.

The spinner-winder, claimed to have drafts from 6 to 100, takes either specially prepared drawing sliver or a 15 by 7" roving bobbin. The sliver is drawn through a double apron drafting system, through a flyer and then upwards to a take-up. Tubes, cones and cheeses can be prepared, but the standard package is a 6-pound warp package.

Texize Chemicals Reports Sharp Loss In 1960

A net operating loss of $308,954 on sales of $15.2 million for the 1960 fiscal year has been announced by Texize Chemicals Inc., Greenville, S. C. This is compared with a net income of $609,167 on sales of $16.4 million during the comparable period in 1959.

W. J. Greer, president of the firm, stated that certain abnormal factors caused a decline in sales volume and consequent loss on operations. The loss pattern continued into June but a turning point was reached in July and the firm operated on a satisfactorily profitable basis the last four months of the fiscal period, with a steady rise in sales, Greer reported.

New Du Pont Dacron Plant Set To Go Into Production

A new unit for the production of Dacron polyester filament yarn at Du Pont's Old Hickory, Tenn., fibers plant began initial commercial operation on February 1, the company reports. The plant formerly produced Dacron staple and rayon textile yarn. Dacron staple is used in a wide variety of blends with cotton and wool and by itself in suitings and apparel fabrics. Dacron filament goes into marquisette curtains, tricot fabrics and a number of other textile applications.

The company said the new filament operation will eventually put the plant in the position of achieving its rated production capacity of 56 million annual pounds of both Dacron staple and filament.

"To meet this goal will require all but about 250 of the 1,800 employees now directly engaged in producing textile rayon at Old Hickory," the company said. "As a result, we are taking steps which will bring rayon production at that location to a halt by August. The production of high tenacity rayon yarn for tire cord and industrial products at the Richmond, Va., plant will continue."

The six-month period will enable the plant to gear production to customer needs and permit an orderly shift in employees to the new operation, Du Pont reports.

AviSun, Japanese Firm Will Co-Produce Plastic Resin

AviSun Corp., Philadelphia, Pa., has concluded an agreement with Shin Nippon Chisso Hiryo, K.K. of Tokyo, Japan to manufacture and market polypropylene resin, film and fiber in Japan. Construction on a 30 million pound-per-year polypropylene plant begins immediately, with completion date set for 1962.

AviSun, an equally-owned affiliate of American Viscose Corp. and Sun Oil Co., was formed in early 1959 to manufacture and market polypropylene resin, film and fiber. A 75-million pound-per-year resin plant is now under construction at New Castle, Del., and is scheduled for mid-June, 1961, completion; a 25-million pound-per-year resin plant is operating at Port Reading, N. J.; and another 20-million pound-per-year film unit is in commercial operation at New Castle.

Polypropylene is the newest of the plastic materials, and is characterized by its lightness, strength and resistance to chemical corrosion and heat distortion, Avi-Sun reports.

Monsanto Sales, Earnings Up For 1960 Fiscal Year

Monsanto Chemical Co., St. Louis, Mo., reports unaudited consolidated sales for 1961 of $890 million as compared with $875 million for 1959. For both years sales include those of the parent company and all subsidiaries, including those of The Chemstrand Corp. and its subsidiaries.

Unaudited net income for 1960 from consolidated sales was $67.7 million, a decrease of 9.5% from income of $74.8 million for 1959.

For Chemstrand alone, 1960 consolidated sales amounted to $204.4 million compared to 1959 sales of $197.9 million. Unaudited net income on the 1960 sales, which include those of Chemstrand's subsidiaries, was $24.1 million. Net income for 1959 was $24.0 million.

Schlafhorst

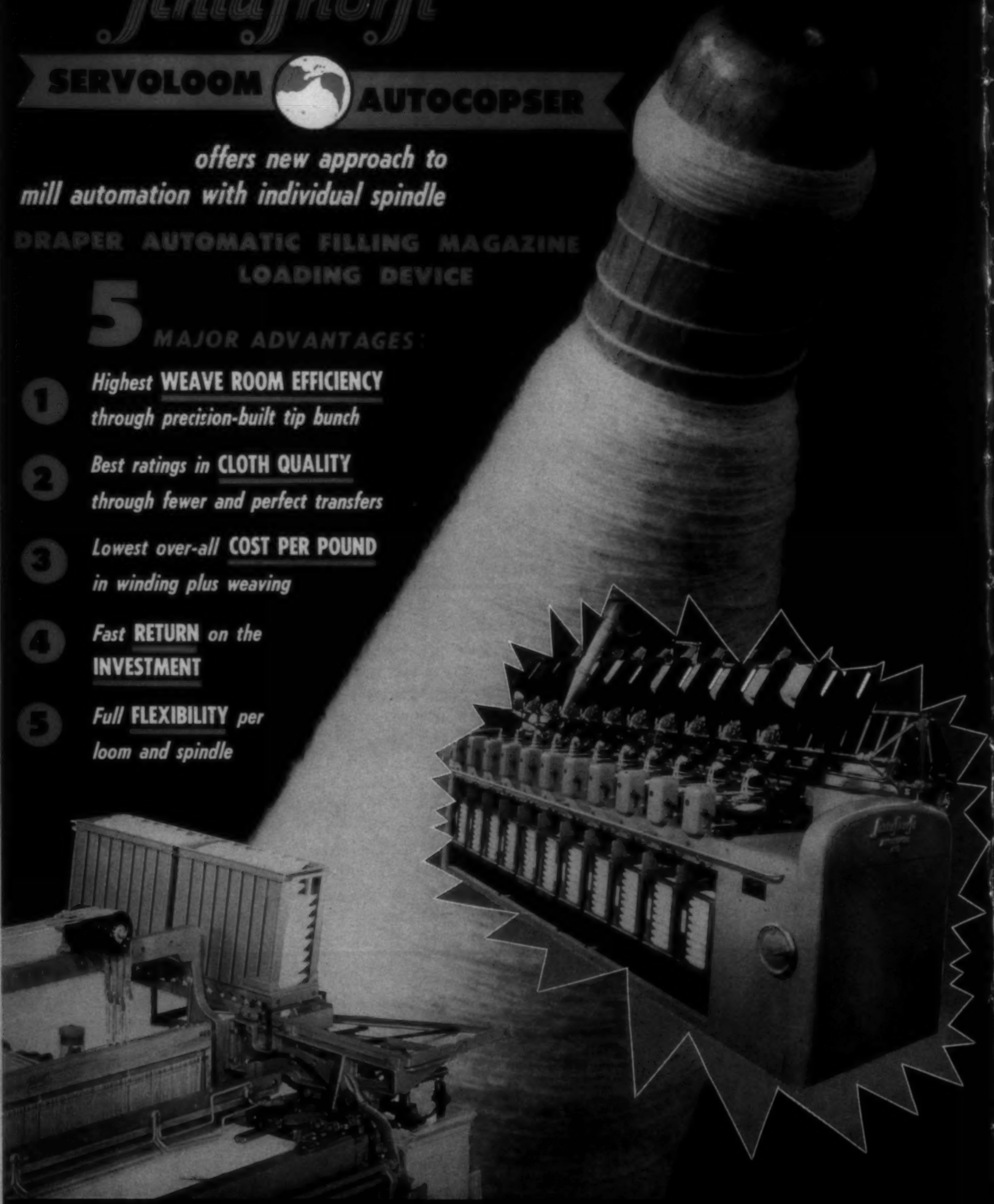
SERVOLOOM **AUTOCOPSER**

offers new approach to mill automation with individual spindle

DRAPER AUTOMATIC FILLING MAGAZINE LOADING DEVICE

5 MAJOR ADVANTAGES:

1. *Highest* **WEAVE ROOM EFFICIENCY** *through precision-built tip bunch*
2. *Best ratings in* **CLOTH QUALITY** *through fewer and perfect transfers*
3. *Lowest over-all* **COST PER POUND** *in winding plus weaving*
4. *Fast* **RETURN** *on the* **INVESTMENT**
5. *Full* **FLEXIBILITY** *per loom and spindle*



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Sold and Serviced by **THE TERRELL MACHINE CO., INC.**

CHARLOTTE N. C. U. S. A.

1911

1961

with this issue TEXTILE BULLETIN *marks its* GOLDEN ANNIVERSARY

and regardless of whether
you're an old-time friend,
or just happened across us
for the first time,
we hope you'll find pleasure
in our following look
into the past

A
FACSIMILE
OF
OUR
FIRST
EDITION

SOUTHERN Textile Bulletin

VOL. I CHARLOTTE, N. C., March 2, 1911 NUMBER 1

Organization of Old Mills a Specialty

WHITIN AND KITSON COTTON MILL MACHINERY

WE HAVE furnished plans, specifications and engineering work for over one hundred and fifty cotton mills in the South. Have furnished machinery and complete equipments for nearly all of these mills, and for as many more designed by other engineers. Our large experience enables us to insure the very best results. A large majority of Southern mills use some of our machinery, many use it exclusively.

KITSON Improved Picking Machinery.

PROVIDENCE Roving Machinery, with their Patented Improvements.

WHITIN Cards, Drawings, Railways, Combers, Silver and Ribbon Lap Machines, Spinning, Twisters, Spoolers, Reels, Looms, Quillers.

CRAMER Air Conditioning System for Humidifying, Ventilating and Air Cleaning.

CRAMER Automatic Regulators for any make of Humidifying and Heating Systems.

MISCELLANEOUS EQUIPMENT: Winding, Slashing and Warping Machinery; Card Grinders; Cloth Room and Finishing Machinery; Nappers; Dye House Machinery; Power Plants; Steam, Water and Electric Fire Protection, Electric Lighting, Humidifying Apparatus, Heating and Ventilating Apparatus, Shafting, Pulleys and Hangers, Belting and Supplies.

STUART W. CRAMER
ENGINEER AND CONTRACTOR
CHARLOTTE, N. C.

Complete Equipment for New Cotton Mills

1911 PROSPERITY

The first 5 weeks in 1911 brought us orders for 10,128 Northrop looms.

About four-fifths of these are to replace old looms; nearly all are for mills in the North.

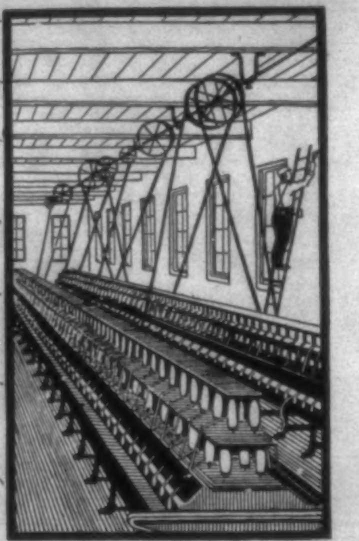
They include looms for weaving a wide range of fabrics and of highest quality.

The best Northrop loom bobbins and shuttles are made by the Northorp loom manufacturers. Look for our name on your shuttles and bobbins.

DRAPER COMPANY
HOPEDALE, MASS.

J. D. CLOUDMAN, Southern Agent 40 South Forsyth St. ATLANTA, GA.

Give the Sun a chance



No matter how brilliant the rays of the *SUN*, unless they are evenly diffused and well reflected you do not get the maximum of Light.

You want—more light—good light—daylight— this is in your easy reach by using—

Pee Gee
FACTRILITE
LIQUID DAYLIGHT

For Interior Walls and Ceilings

Supplies more and better light, by reflecting and diffusing Sunlight as well as artificial light to every corner of your mill thereby **increasing the hours of daylight and saving much of the artificial light** required at night. Pee Gee Factrilite has a high-gloss, tile-like finish of highest reflective power—

Stays White for Years

Pee Gee Factrilite is made by our own perfected process of especially prepared white pigments and long oil, therefore it will not turn yellow like ordinary paints which contain lead and varnish.

It is an economical paint, because it is **Washable, Durable, Germ and Moisture Proof.** Saves the expense of frequent repainting, does not peel or crack and withstands the vibration of heavy machinery.

Pee Gee Factrilite spreads freely and is easily applied on wood, plaster, stone, brick or metal surfaces, having a covering capacity of 450 to 550 square feet per gallon. It is made in gloss enamel or eggshell finish.

We supervise the job at our expense and place at your disposal a practical man to direct the painting of your mill or any part thereof. Write today for sample board painted with Pee Gee Factrilite.

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Established 1867 **Paint Grinders, Varnish Makers** **Louisville, Ky.**

SOUTHERN
Textile Bulletin

VOL. I CHARLOTTE, N. C., March 2, 1911 NUMBER 1

A Revolving Loom

IT would indeed be a useful privilege if we could, on occasion, free our minds entirely from the traditions in which we have been reared. Especially did we wish for such a condition of mind when called upon to inspect what must surely be one of the biggest innovations of recent years.

Circular looms are not broadly new, numerous attempts having been made—more or less successfully—to introduce them. But all these circular looms have employed a moving shuttle; in fact, we do not know any attempt to employ a stationary shuttle or filling containing or inserting device before the invention we describe below. Inventors have devoted considerable time to the improvement of what may be generally termed picking devices, because it is well known that picking in looms as at present constituted is costly in power and upkeep.

In Whalley's loom there is no picking. The beams, the shedding mechanism, the reed, the take-up rollers and cloth beam with the warp and cloth revolve round a central shaft, and the shuttle alone is stationary. At first sight this seems to be an entirely wrong and absurd method of operation. Ostensibly it is proposed to send anything from 1,300 lbs. to 1,500 lbs. (for the loom is one producing wide cloths) spinning round a shaft in order to avoid throwing a one-half pound shuttle through a 133-inch width of cloth.

But a great deal more hangs on to the revolving method than appears at first sight, and, as a matter of fact, it should be possible, if ball bearings are utilized, to drive this remarkable loom with less power than a horizontal loom of the same width requires today. New principles are introduced in the shedding and beating up which require much less power in their operation, and are certainly less severe on the loom. As a matter of fact, the needles which govern the warp threads form the shed by falling by gravity, the fall being aided by the centrifugal action set up by the revolving frame.

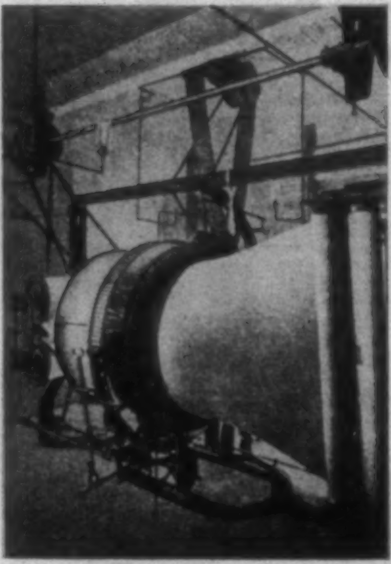


Fig. 1

The complete possibilities of the loom certainly not yet been fully grasped, except possibly by the inventor himself, and it is quite likely that many modifications of parts will require to be made before the loom becomes a commercial success, but so much has been done and a daring innovation carried out in such an altogether remarkable manner that we do not think the perfecting of the operations will cause any considerable amount of trouble.

An idea of the general appearance of the loom can be gathered from our photographic illustration (Fig. 1), which is taken from the cloth end of the loom. In the following description it is proposed to deal with the various weaving operations separately. The parts of the loom are shown in Fig. 2. The loom has a main driving shaft 1 driven from the pulley shaft 8 through gears 5, 6. Supported on this central shaft are the whole of the parts, such as two warp beams 9, an annular back rest 13, heald frame 39, a circular revolving reed, a take-up roller 135, and sand rollers 133, 134. An ingenious arrangement is fitted whereby the loom cannot be started if the shuttle is out of position, nor can

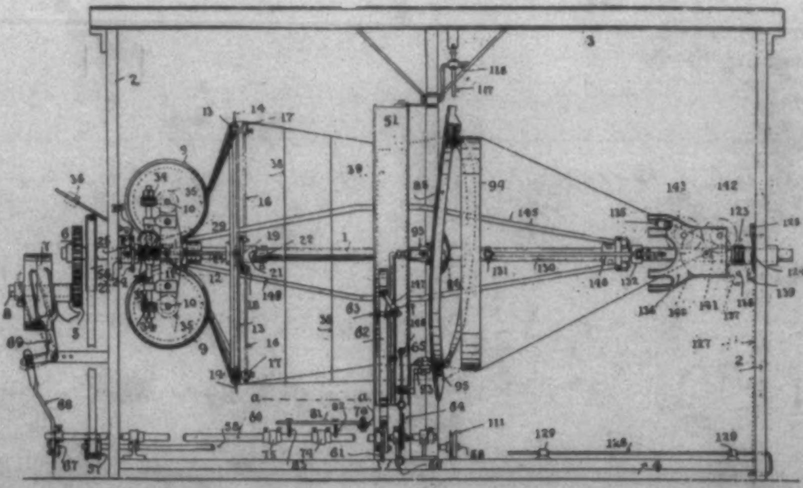


Fig. 2.

the shuttle be taken out while the loom is at work.

The warp is let off automatically and positively according to the tension of the warp passing the back rest 13. In connection with the back rest are arranged a number of cranked rods 16 (Fig. 2), which carry segmental pieces or crotches 17, and are by their opposite ends jointed at 18 to a loose disc 19, which has a cam engaging a toothed collar or cam 22 fixed on the main shaft 1. With ordinary tension on the warp the disc 19 is not affected, but with increased tension the crotches 17 press the rods 16 towards the center, and the disc 19 is slightly rotated, and, by the action of the cam 22, pushed slightly back, this movement of the disc acts on the spindles 23 attached to the rotating plate 24, which in turn acts on lever arms 25, and forces a tooth 26 carried by a pivoted bar in brackets into gear with a notched wheel 27 formed with or attached to the worm 28. Through gearing 29, 31, 32, 34 and 35 the warp beam shafts 10 are driven and the warp beams rotated. Means are provided to check the amount of rotation of the warp beams.

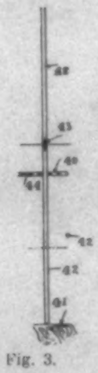


Fig. 3.

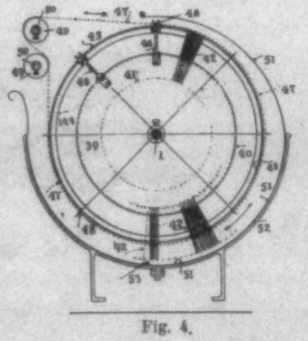


Fig. 4.

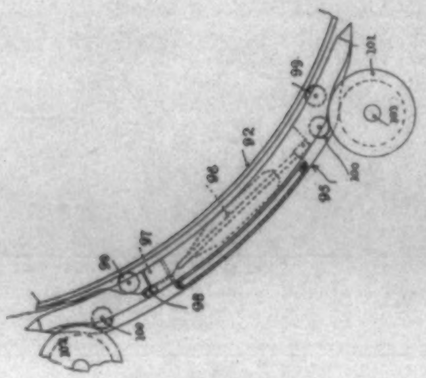


Fig. 5.

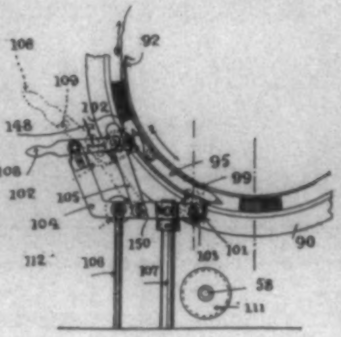


Fig. 6.

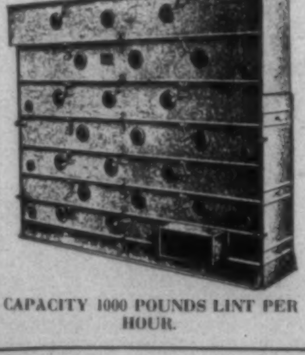
The shedding is, as we have previously stated, the result of gravity combined with centrifugal force. Needles such as 42 (Fig. 3) are employed, having an eye drilled through them at 43, through which the warp thread is drawn. The heald frame is an annular drum with a perforated periphery 40 (Fig. 4) and a wooden boss 41, the enclosed space between 44 and 40 forming an annular housing space for a portion of the length of the needles 42. The holes 44 are closely pitched, so that the needles are distributed at close intervals all round and in ranks laterally. To further guide the needles a perforated sheet 45 is sustained by brackets 46. As the heald frame rotates the unchecked needle falls by its own weight once they pass below the horizontal center, and regain their position when they rise above the horizontal center. By means of a chain of perforated metallic cards 47 the needles can be checked, and, according to how the perforations are cut, patterns can be formed in the fabric. The range of patterns possible appears to be almost unlimited, and by introducing what is termed a hunting card—on the principle of a hunting tooth—a large pattern appearing only once in the full width of the fabric can be repeated in any other desired position. The pattern can be on as many ends as there are in the warp without repeats. Moreover, the means employed to produce the shedding are simplicity itself.

The shuttle is stationary, being held, as is shown in Fig. 5, by means of retaining bowls 101 and 102. A curved shuttle 95 is employed, which lies against the annular face of the ledge or race 92 (Fig. 6). By absolutely eradicating picking, one of the costliest operations in any loom has been removed. Everyone having a knowledge of the subject agrees that the method of picking generally employed has great faults which cannot be ameliorated to any extent. With a long shuttle it will be possible for it to carry a cop—supposing one is wound —27 inches in length and 1½ inches wide. The strain on the filling is practically nil, and any class of filling can be employed, even the very weakest. There is no necessity to "time" the operation of picking, as in an ordinary plain loom.

The annular reed shown at 85 in Fig. 2 revolves round the central shaft, and bears against bowls 93, the upper one of which is set eccentrically, so that the reed is deflected, and beats up the filling. The beating-up action—if such it can be called—is very simple, and should not put a very considerable strain on the warp threads. As the cloth leaves the reed it passes over an annular drum 94, which keeps it distended, but even after leaving this the contraction is not very great. The cloth is split up by a cutting device, and is wound on the cloth beam in the ordinary manner. A special set of needles acting in a remarkably simple but effective manner form the selvedges.

Warp and filling stop motions are applied, but, being new, not altogether in principle, still in the method of carrying them into effect. Each heald acts as its own detector, so that one drawing-in

(Continued on Page 28)



"SLOW DOWN YOUR BEATERS"
"EVEN RUNNING OF NUMBERS!"
THE C. O. B. IS RESPONSIBLE FOR BOTH

"I think I can safely eliminate one process of beating and reduce the speed of the other three beaters 20 per cent. and get less waste, sending the cotton into the mill in much better shape than by the old system.

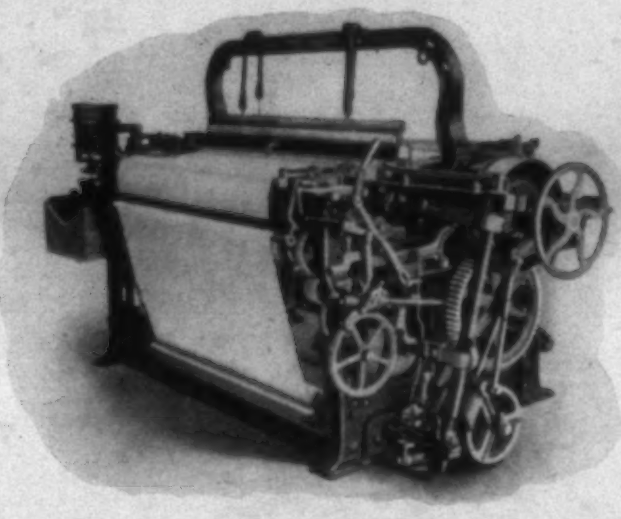
My Boss Spinner said: "Mr. Wallace, I am utterly surprised at the regularity of numbers and cannot account for it."

Mr. Wallace gives all credit to the work of the C. O. B. for *this success in his mill*, because it cleans, opens and fluffs his cotton in a proper manner."

Extracts from Mr. T. B. Wallace's remarks in favor of the C. O. B. machine at the Southern Textile Association Meeting at Greenville, S. C., July, 1911.

CAPACITY 1000 POUNDS LINT PER HOUR.

MANUFACTURED BY
EMPIRE DUPLEX GIN COMPANY, 68 William St., New York
Southern Representative J. S. COTHRAN, Charlotte, N. C.



"IDEAL" AUTOMATIC LOOMS

Produces better cloth with less waste than any other automatic loom.

Many mills operate 28 to a weaver.

Effects a saving of over 60 per cent in weaving costs.

No special bobbin or shuttle.

Repair parts all standard, purchasable in open market.

Strongest, heaviest and best constructed loom ever built.

THE STAFFORD COMPANY

READVILLE, MASS.

FRED H. WHITE, Southern Agent, Realty Building, Charlotte, N. C.

Vacuum Cleaning System

WHEN the vacuum system of cleaning was successfully introduced for public buildings, hotels and private dwelling houses several years ago, textile manufacturers were attracted to its possibilities for mill use, for if it could be adapted to mill conditions, the advantages of this easy, thorough and economical method of cleaning a mill was very apparent.

The trouble with the vacuum principle of cleaning textile mills has been to apply the process in a proper way. Several obstacles have immediately confronted the would-be experimenter, which are worthy of explanation, and combined with these obstacles are a few inherent physical properties of vacuum cleaning apparatus, which tend to complicate the problem.

There are two general types of vacuum cleaning apparatus, the high and the low vacuum. The high vacuum apparatus uses a comparatively large amount of air at a relatively low vacuum. The high vacuum machine is very desirable type for cleaning rugs, carpets, upholstered work, etc., where an intimate contact of the nozzle can be obtained, but the small amount of air does not commend this type of apparatus to textile mills where a close contact cannot be obtained, and where the dirt is to be handled is more a matter of surface lint and fly than like the dirt imbedded in upholstery fabrics or carpets. The low vacuum machine with its large vacuum of air seems to fit textile conditions best for the reasons just mentioned.

Methods of driving these vacuum producers range from the single hand operation lever through the whole gamut of belt, steam engine, gasoline engine, electric motor, etc. None of these machines, however, lend themselves to practical use in the textile mill.

The hand operated machine is of course a joke when used for this purpose.

The large central plant is not commercially practical although it has been tried. The difficulties were:

1. The long and circuitous system of piping all over the mill caused a tremendous loss in creating a proper vacuum at the points desired.

2. The pipes filled up with lint and oily fly necessitated frequent cleaning and menaced the plant from the fire hazard standpoint.

3. The first cost, as well as the cost of operation, was excessive.

These objections would indicate that the successful textile mill vacuum machine must be of the portable type.

Of this type, the electrically driven or gas engine driven machines are out of the question, because of the fire hazard so close to the large amount of lint, and further, too, in the case of the electric motor driven portable outfit, the power required is too much for ordinary lighting circuits, so that special wiring throughout the mill would be necessary.

The use of compressed air for cleaning textile machinery has already become quite common. It has proven very satisfactory even in the spinning rooms, but the dirt and fly which was blown off the machinery has had to be swept up from the floor by the old methods. Most of the mills using compressed air for cleaning are equipped with the Turbo Humidifier system, for the cleaning attachment can be employed with this apparatus at practically no extra expense.

It is quite natural, therefore, that the G. M. Parks Co. of Fitchburg, Mass., the manufacturers of the Turbo system, should have given much thought to vacuum cleaning so as to round out and complete the usefulness of compressed air. Many mill men have brought it to their attention and urged them to investigate the possibilities of a practical vacuum cleaning system.

About a year ago they tackled the problem. The story of their experiments and failures shows how by a process of elimination they finally arrived at certain fundamental specifications for such an apparatus which is demanded by mill conditions.

Their first experiments were with a fan belted to an ingenious compressed air motor, for they early discovered that the only possible solution of the power problem in the alleys among the machinery was compressed air. They connected this with a dust collector and mounted the whole on a small truck. It did the work but it took a lot of power to operate it, and a mill which was equipped with only one of these devices would never be clean all over at the same time, unless it was a very small plant, because this one machine could not cover a large mill in a day or a week, and if more than one machine had to be employed, the cost appeared to be prohibitive.

Some of their early experiments had been along the lines of the ejector principle, but these were abandoned for the seemingly more feasible compressed air outfit just mentioned. When it was found that the plan would not work, they went back again to the ejector type, and after long experimenting solved the problem for an apparatus which would meet the conditions which they believe to be essential to mill use. The specifications which seem to be demanded by the conditions are as follows:

1. It must be of the low vacuum, large volume of air type to properly handle lint.

2. The device must be portable, because the large central unit is not feasible.

3. It must be small enough to pass through the narrowest alleys.

4. It must use compressed air for a motive power, because no other available power is practical.

5. The power required must be small.

6. The apparatus must lend itself to any possible cleaning organization—whether a separate cleaning force, or cleaning by regular operatives.

7. It ought to be light, simple in construction, of few parts, high mechanical efficiency, small opportunity for clogging, easily cleaned if clogged by an extra large piece of floor waste, and capable of operation by a boy.

8. Since the apparatus is liable to be operated by the young or the unskilled, there should be no moving parts, no gears, nothing to catch in loose clothing of operatives.

A glance at the cut will show how completely the Turbo Vacuum Cleaner conforms to the above specifications and more especially to the requirements under the seventh paragraph. The Turbo Vacuum Cleaner is of the low vacuum, large volume of air, type. It operates with a vacuum of 4 inches of water, and induces a suction through the vacuum nozzle of 90 to 100 cubic feet of air per minute. It is portable, because the whole outfit, including collecting bag, suction hose and ceiling pole weighs about 15 pounds. It is so small as to be easily suspended on the back of a boy by means of a strap over the shoulder, or if preferred may be dragged on the floor, or carried in one hand.

It uses compressed air at 30 pounds pressure, and only 20 cubic feet of air per minute are required to give proper results, although the device will work at any pressure above 30 pounds. The power cost of operation is therefore small.

It can be used either by a separate cleaning force, or a sufficient number can be purchased to enable the regular operatives to do the cleaning by passing the devices along from one to another.

The Turbo cleaner is light and aside from the hose and dust collector bag it comprises but two pieces, neither of which is in motion. There are no moving parts, hence nothing to oil, wear or break. The high mechanical efficiency obtained would be impossible if there were any moving parts.

There is no opportunity for clogging because it is a straight, unimpeded passage 2 inches in diameter from the entrance of the suction hose to the collector bag, yet should an extra large piece of waste or a stick clog the hose or vacuum cleaner, the whole machine can be taken apart, cleaned out and put together again in one minute. A 12-year-old boy can easily operate it.

Southern Cotton Mills

WE have compiled the data given in the August 1st edition of "Clark's Directory of Southern Cotton Mills" and find the following:

Number of mills	768
Total capitalization ...	$209,522,00
Total spindles	12,279,288
Total looms	256,035

These statistics do not take into account a large amount of spindles that have been purchased and part of which are now being installed. According to reliable information the following machinery has been purchased by the mills of the states mentioned and will be installed at an early date, in fact, the buildings for most of it are now being erected.

	Spindles
Alabama	40,500
Georgia	30,500
North Carolina	126,000
South Carolina	169,000
Tennessee	10,000
Texas	20,000
Virginia	76,000
TOTAL	472,000

Adding this 472,000 spindles to the 12,279,000 now in the mills of the South will give a total of 12,752,000 which is a remarkable increase over previous years.

	Mills	**Capital Stock (millions)**	**Spindles**	**Looms**
Alabama	64	$ 17,876	1,005,686	18,858
Arkansas	2	215	14,768	164
Georgia	141	34,825	2,102,672	40,610
Kentucky	8	1,605	96,964	1,392
Louisiana	5	2,015	86,908	2,316
Mississippi	19	3,223	158,636	4,813
Missouri	3	860	42,080	966
North Carolina	316	59,270	3,556,723	60,428
Oklahoma	1	150	5,712	....
South Carolina	157	72,838	4,397,980	107,711
Tennessee	21	4,180	275,839	4,485
Texas	19	2,491	115,676	2,835
Virginia	12	9,974	419,644	11,455
TOTAL	768	$209,522	12,279,288	256,035

It will be seen from the table that North Carolina has more than twice as many mills as South Carolina and yet South Carolina by reason of the larger size of her mills has almost a million more spindles.

North Carolina abounds in small yarn mills while South Carolina has the large mills on export goods. The bulk of the colored goods of the South are manufactured in North Carolina as there are only a few colored goods mills in South Carolina.

Eliminating the batting mills and the mills with only looms we find the average size of the mills in the four leading states to be as follows:

	Spindles
North Carolina	11,650
Alabama	16,000
Georgia	15,100
South Carolina	22,000

The tendency of the times is towards larger mills and it is notable that very few small mills have been projected during the past 12 months.

This edition of Clark's Directory shows a very small number of new mills and that practically all of the increases in spindles is due to enlargement of old mills. It is of special note that a large number of mills have made small increases of one or two thousand spindles.

There has also been a big business for the machinery houses in the way of replacing old machinery with modern and several large orders recently given were entirely for replacing.

Excellent Location
for Establishment of Cotton Mill

At a point in South Carolina, served by three railroads, we are in a position to offer site for cotton mill, and will arrange with proper parties for the subscription of one-half the stock of a large mill.

Full particulars on request to

J. A. PRIDE
General Industrial Agent, Seaboard Air Line Railway
NORFOLK, VA.

The Spinning Room

By CHAS. M. STOY, Anniston, Ala., before Southern Textile Association

MANY people are of the opinion that the process of spinning starts when the roving is delivered to the ring frame, or mule, but in reality spinning has begun when the work has started through the slubber for there the cotton receives its first twist.

It is true that slubbing and intermediate and fly frames are called roving frames, and such they are, yet they spin and twist and double the yarn in its minor state, thereby preparing it for the final machine when it is drawn out and receives yarn twist in the spinning room.

In these roving spinning machines the quality of the yarn can easily be impaired or made almost worthless by several causes which do not arise in the spinning frame. The principal one of these causes is tension, which requires constant watchfulness and attention, for the foundation of spinning is laid on these machines. It is a well known fact that the spinning room will run well if the roving is good.

Dampness is one of the principal drawbacks to the work of these machines. Therefore, I do not believe in using the humidifiers except in extreme changes, such as very warm, dry, and cold, dry weather. In the first case the humidifier will cool the atmosphere; and in the second, by using warm water through them, it will do away with the electricity that is in the air, and give elasticity to the cotton.

Except in cases as above described, I prefer to have them shut off in the card room as a sliver or strand of roving filled with moisture will, in all cases, drag back and give out more resistance than a dry one. Consequently, there are more chances for strained or stretched roving as the strain, in most cases, arises when the roving is passing through the two rolls, caused by two forces, namely: the forward movement of the roll, and the pressure of the weight which, in time, will wear a recess or notch in the nib where the end of the top roll bears against it, which will then hold the roll tight in its socket and deprive the stock which is being drawn of a part of the benefit of the weight and cushion of the roll, thereby making uneven yarn.

I have just taken out every nib on a section of frames which have been run in this way, and replaced with new ones and found that my work was wonderfully improved by the change.

One should use a good heavy oil on top rolls. I prefer A00 Non-Fluid, as it does not take but a drop to the bearing each day, and stays on, thereby giving a lasting lubricant.

Care should be taken that thread guides are properly set. Spindles should be plumbed to rings at bottom and top of traverse. Whenever it is necessary to replace a broken spindle base or bolster, have the section man plumb the spindle true to its proper running position before he leaves it. Keep ring rails level and rings down level the same, otherwise there will be an uneven tension on the yarn, causing the traveler to have more friction on one side of ring than the other, which will shorten the life of both traveler and ring. Have spindles oiled every two weeks with a good spindle oil. Care should be used in the making of bands so that each will be the same size and have the same amount of twist. It is preferable to use good roving bands, as they will not stretch and make near so much soft yarn as the yarn band, for the reason that roving bands will fall off of whorl when same become slack or worn.

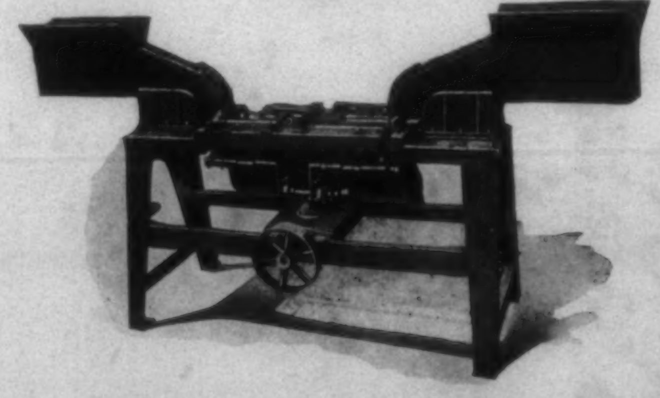
The roving traverses should be set so that as near the whole base of the top roll will be traversed by the roving as possible, thereby avoiding an uneven surface on top roll, a poor quality of yarn and a short lifed roll.

The proper weight traveler is a very important factor in the production of good yarn, and also serves as a tension in winding the yarn on the bobbin. Unless the tension is good and regular the twist will not be even, and as a result irregularly twisted and weak yarn will be spun.

The number or weight of travelers is dependent on seven conditions, viz: Number of yarn being spun; speed of spindles; quality of staple of cotton; the amount of twist wanted; diameter of ring; round or square point traveler, and whether travelers be round or flat topped.

Any one of these seven conditions altered will affect the proper weight of traveler needed. Therefore, one can readily see that in order to get the right number of travelers for a certain number of yarn, he will have to make tests and judge for himself which traveler gives him the best results.

(Continued on Page 28)



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COTTON MILL MACHINERY

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WHITIN Cards, Drawings, Railways, Combers, Silver and Ribbon Lap Machines, Spinning, Twisters, Spoolers, Reels, Looms, Quillers.

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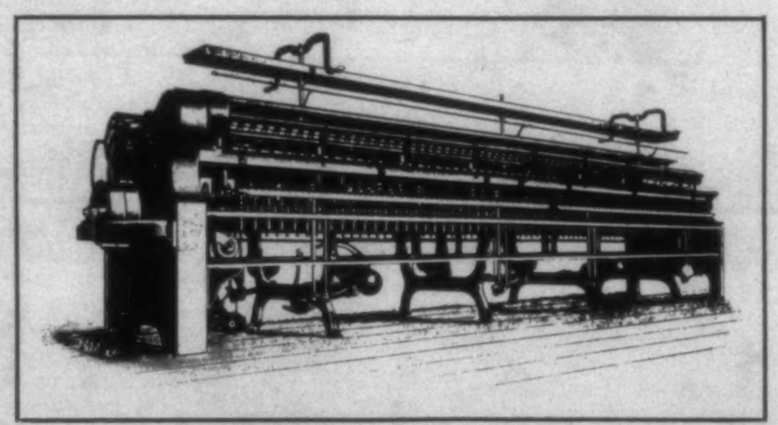

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Pulleys and Hangers
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ENGINEER and CONTRACTOR

CHARLOTTE, N. C.

SOUTHERN

TEXTILE BULLETIN

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Successor to Nothing

Those who have worked in an old mill to which had been added from time to time the remains of other old mills know the difficulties which continually arise and that no matter how hard they may labor, ultimate success seems unattainable.

Those who have been transferred from such conditions to a new mill where the machinery is bright and new, can realize to some extent the feelings of the editor of this publication on the occasion of our first regular issue.

We are successor to nothing, and glad of it. That we are the predecessor of much we confidently hope.

Just as it takes a new mill some time to get its machinery adjusted and lubricated, so it will take us several weeks to get our organization completed and to work out a satisfactory system.

Our editorial policy will be conservative but we will not be afraid to speak out upon all matters which effect the textile industry of the South and the welfare of its people.

Our troubles of the present are small and we expect to so conduct this publication as to avoid troubles in the future.

The Textile Exhibit

The Textile Exhibitors Association are this week holding an exhibit of textile machinery, mill supplies and general textiles in Mechanics Hall, Boston, Mass.

The exhibit will be open the entire week and is the largest thing of its kind ever held in this country and of considerable more magnitude than a similar exhibit which was held two years ago.

The exhibits are arranged in booths and each exhibitor while limited by space to a few machines has endeavored to present those which show the highest development in its line. The progress of the past two years in the development and improvement of textile machinery will be very clearly shown by this exhibit as not only are new models of old machines shown but many are present which were unknown two years ago.

The cotton manufacturers who were able to attend this convention are indeed fortunate as such a collection of machinery has been rarely gathered together.

Female Apparel

"There she goes, there she goes,
All dressed up in her Sunday clothes,
Nobody knows, nobody knows,
Whether she wears any underclothes."

The above poetic effusion in the Eastern number of *Judge* would indicate that at least one contributor to that publication still has doubts about the amount of apparel required by the female of the species.

According to many authorities the late depression in the cotton manufacturing industry was caused by the scantiness of female apparel as prescribed by the fashion of the past two years, and so scanty was the clothing of those who dressed in extreme fashion that only the shady side of the street could be used by them on account of the transparency caused by the sunlight. As the demand of cotton goods has shown a radical change and the amount that is being purchased is very large, it is logical to believe that more garments are now being worn and that the poem above, however true for last year, is now out of date.

Mill Tenements

If you would know how the conditions of mill life in Southern cotton mill settlements is compared with conditions in the New England textile centers, buy one of the current illustrated weeklies and look at the pictures. Disregard the text—let the camera alone tell the story. Study those solid blocks of miserable tenements, each "house" a hive, containing 25, 50, 100 families—more in some cases; remember that a large proportion of the windows open only into "air shafts"—fetid, dark, dusky wells, criss-crossed with clotheslines; note that there is no play place for children but on the fragile fire escapes and in the street, no rest place for the grown-ups but the stoop, which is common to all within the building; think of the stairs, the long, dark flights—which must be climbed by dwellers on the upper floors; take thought of what happens in these vast dens when the inevitable fire occurs; remember the cruel, long Winters, when snow lies on the ground for months, and zero is a normal temperature; and do not forget that each tiny apartment is uniformly kept filled to its utmost capacity—seven or eight persons to a three-room apartment is not considered crowding.

Then think of our own mill villages, where each family may occupy all to itself a detached cottage, standing in a little plot of ground, at a lower rental than the same family would pay in New England for a three-room apartment in a 50-family building. There are piazas, which in this climate can be used almost the year 'round. There are plenty of windows, and they all open into the outer air. There is one flight of stairs in the larger houses, no stairs in the smaller. The family may have a kitchen, a garden and a flower garden, and in many villages may raise poultry and keep a cow. The exclusive occupation of a house encourages home-making, develops home-feeling. All the sanitary and health conditions, the moral conditions also, are infinitely superior to those who exist—which can exist—in tenements of the Lawrence type.—*(Columbia* (S. C.) *Record)*

Southern Cotton Mill Workers

THERE is, perhaps, no industrial class of people in America that is marked off from the rest of society by such definite lines as are the cotton mill workers of the Southern states.

They were originally, for the most part, "small landowners, tenant farmers or mountain people. They are conservative with the conservatism natural to people from such surroundings." The change from the agricultural to the industrial line has made them less isolated as individuals, but scarcely less so as a class. There has been little mingling with other people. The manufacturers have gone to the farms or into the hills and mountains, brought families together, and made them into communities. These communities, whether in the remote country districts of North Carolina or within the limits of a city like Atlanta, Ga., remain almost as isolated from the rest of the world as the individual families were on the scattered farms from which they came.

There are several reasons for this. In the first place, they are looked down upon by the other people of the South. There is no attempt to make them a part of the community into which they have recently come. The old residents know little about them and care less. In the second place, certain conditions of the new industrial life foster this isolation. The whole family—men, women and children—are engaged in the same industry which every other family in their community is engaged. They have their own churches and their own schools, in many cases furnished by the mill owners. They live, with few exceptions, in houses owned by the mill company. They buy their provisions, in many cases, from the company store. The cotton mill is the center of their lives. Their present and their future are bounded by it. In less isolated industrial communities there is always the prospect of working into some other and higher industrial group. The vision of the Southern cotton operatives, however, is so limited by his surroundings that this possibility rarely occurs to him. In many industries the father may feel that he can never hope for anything more for himself but he can at least plan and struggle for a better life for his children. Here the mill demands the children as well as the fathers. *(Report from the U. S. Dept. Labor)*

The Labor Bureau Report

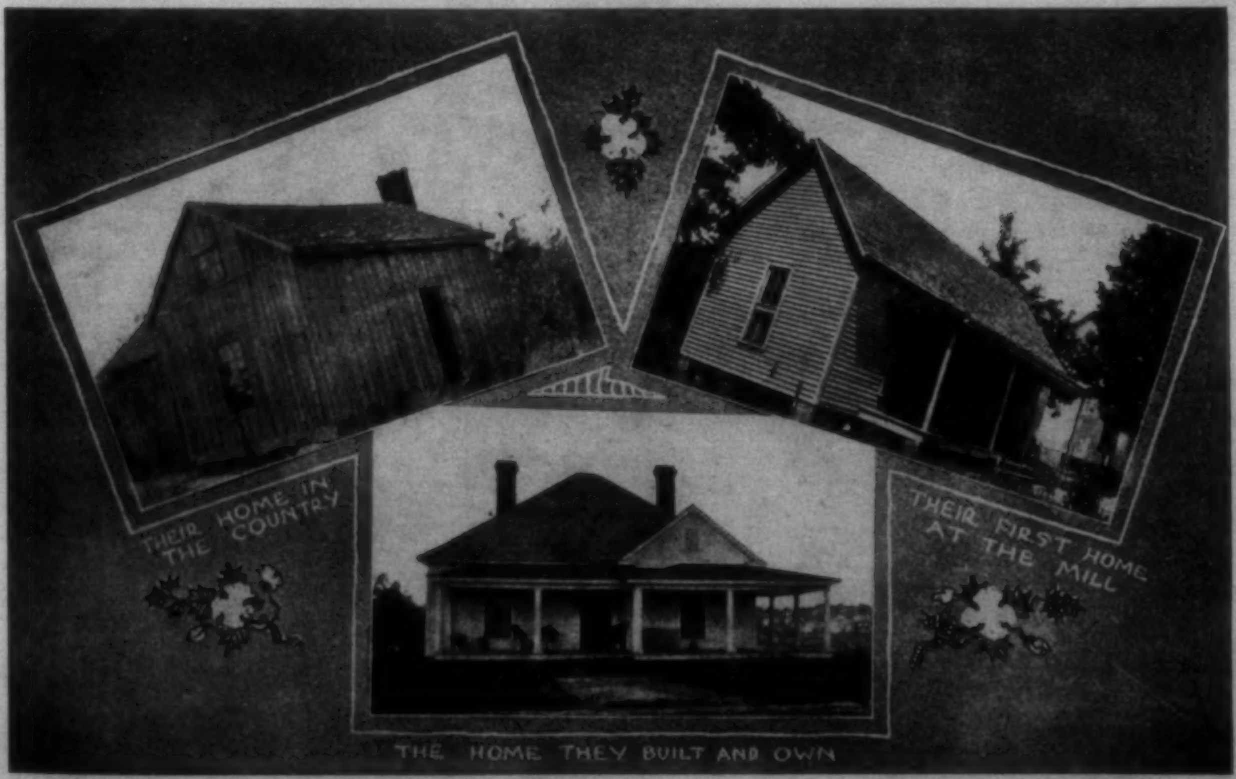
When Gabriel blows his trumpet on Judgment Day we have no doubt that somebody will come forward with a report to the effect that the Southern cotton mill operatives are not wearing their halos at the proper angle.

The Southern mills have been investigated and investigated and the Labor Bureau at Washington has many reports dealing with every phase of Southern cotton mill life, but it seems that there is no end and they can never let us alone.

We do not claim that mill conditions are ideal and we do not expect that perfect conditions will ever be reached before the end of time.

We do believe that there is less discontent and less real suffering among the cotton mill operatives of the South than among the employees of any other industry.

The mill owners and managers al-


THEIR HOME IN THE COUNTRY
THEIR FIRST HOME AT THE MILL
THE HOME THEY BUILT AND OWN

Each family may occupy a cottage at a lower rental than a 3-room apartment in New England would cost.

THIS
BY ITSELF
MAKES ANY PRIVY
FLYPROOF
AND
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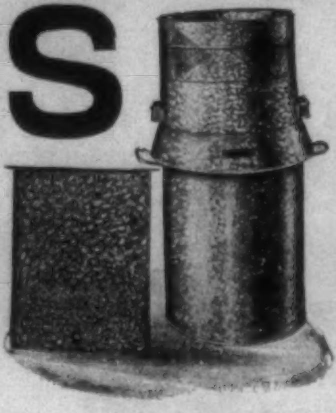

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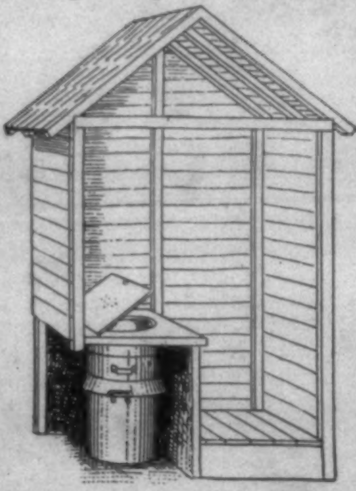
STEVENS SANITARY CLOSET CANS

and it gives you all your need in a surface closet. Metal construction throughout,—can't rot, go to staves, leak, crack, burst from freezing or clog. Can be depended upon through heat, cold, rains or drouth. It is instantly installed and quickly removed for cleaning. Instantly replaced in exact position under seat without use of hooks, locks, or vents to require attention. The patented, sliding collar holds receptacle in position, catches all excreta, prevents soil and water pollution. Shows at a glance that can is properly replaced and fly proof. You can't forget to make it safe.



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ALL THE PRIVACY OF A SEWERED CLOSET, $3.00 COMPLETE

Don't be deprived of an adequate toilet system, don't wait for sewer facilities or a more opportune time to improve your sanitary conditions. Don't worry with "extensive plans," remodeled buildings, torn up grounds and costly labor when the Stevens Can will give you perfect satisfaction for years to come for an average of 4c. per month.

INVEST TODAY IN STEVENS CANS

The efficient, the practical, the best by test, most economical device for the purpose on the market, or ask for detailed information and answers to special questions in regard to your own particular proposition. *Postal brings further information* or a shipment of cans. WRITE TODAY.

THE SELIG COMPANY
MANUFACTURERS
Atlanta, Ga.

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Dallas, Texas

most without exception take a great interest in the welfare of their operatives and many mills are spending large sums on welfare work.

We have a well-founded opinion that the inspiration of these reports comes from outside the Bureau of Labor, but being unable to furnish positive proof we will forbear to coment on same.

Labor Problems

The employees of these Southern factories are an illiterate, ignorant set of white people, enticed from their isolated homes in the hills by the bait of wages and opportunities never before enjoyed. As a result of the needs, the ignorance, and the moral obtuseness of these people on the one hand, and of the greed and selfishness of the manufacturers, especially those from the North, on the other, children are put to work in the cotton mills at an early age, sometimes as low as six years.

—*The Literary Digest*.

Another Associate Editor Gone

We have received the following letter:

Fort Thomas, Ky.
December 20th

Dear Mr. Clark:

I would have wired you, but we were not examined until the first part of the week so I did not know definitely whether I would be accepted or not.

I have been accepted and will probably be here until the middle part of next week.

I wish to express again my sincere appreciation for the many things you have done for me. It has been a great pleasure to work for you and I hope you will need my services further after my "leave of absence" to France has expired.

I saw the Bradford Belting people's sign here today. It reminded me of the upper front cover.

Today is the day your big issue comes out. I know it will be a success.

Regards to the force.

Sincerely,
Harry L. Dalton
22nd Rct. Co.
5th Platoon
372 Squad

Statement by the Stafford Co.

The Stafford Co. of Readville, Mass., manufacturers of the "Ideal Automatic" loom, have issued the following statement:

"The case with the Draper Co. of Hopedale, Mass., regarding patent 527014 has just been decided in our favor. We deem it only fair to advise purchasers of looms that while we have no desire or intention to inconvenience mill owners, we shall vigorously prosecute any manufacturer of devices infringing our patents whether made by the Draper Co. or anyone else, and shall certainly take advantage of our right to injunctions restraining the use as well as the manufacture of such infringing devices."

Found No Child Slavery

NOTICING that the National Child Labor Committee was to meet in Washington, D. C., on January 5, I wrote them asking to be allowed to make an address, and probably having the idea that I would afford some amusement, they granted my request.

I knew I was in for a hard time and spent much care and time in preparing my remarks, which I called "A Demand for a Square Deal."

I shall never forget my sensations as I entered their convention hall on the top floor of the New Willard Hotel in Washington and was conducted to the platform.

The only persons in the room whom I knew were A. J. McKelway and W. H. Swift, both professional agitators. A speaker, in order to be effective, needs a friendly audience and can usually count upon, at least, a responsive audience, but as I looked over that crowd of men and women, most of them professional agitators or misguided and misinformed philanthropists, I realized that I not only did not have a friend in the hall but that their enmity would grow as I proceeded and that I might just as well take my gloves off at the start.

I had no illusions about being able to convert or influence any of those present but had seen in the occasion an opportunity to reach the entire country with the publicity of a denial of many false statements that had been made about the textile industry of the South, and also a certain satisfaction in denouncing our traducers to their faces.

My knees were not very steady when I entered the hall but when I realized the enmity of my audience, it caused in me a feeling of anger and I never began any speech as coolly and deliberately.

I told them that I came to demand a square deal for the cotton manufacturers of the South and that I was tired of the false statements and tricky misrepresentations that A. J. McKelway, Owen Lovejoy and others of their organization were spreading over the country.

I told them of the child labor conditions that did exist and pointed out many of their false statements.

When I began there was amazement on many faces but amazement quickly turned to anger and when I stopped the storm broke. It seemed that everybody wanted to talk at the same time and there must have been twenty-five on their feet at one time.

Florence Kelly, one of the worst agitators this country has ever produced, made some remarks and I told her to go back to her own New York East Side and sweep around her own door before she tried to run the affairs of North Carolina.

A preacher from Illinois came all the way down the aisle shaking his fists but quieted down when I told him that no minister who lived among barrooms and dives could prescribe for my people.

After this cross-fire had gone on for about ten minutes Homer Folks, secretary of the National Child Labor Committee, arose and made the following very remarkable statement and admis-

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Child Labor in North Carolina

(By the Washington Correspondent of *The Public*)

IN America the notion prevails that the slums are all in the city and that dirt and disease are necessarily allied to tenement houses. Some facts uncovered by the Children's Bureau may be of interest to those who still fancy that rural conditions are necessarily healthful. The facts are developed in a survey of two typical North Carolina counties, where 487 families were visited, 129 negro and the rest native white of native born American parentage.

The mothers in these North Carolina Counties married young, had large families, and at the same time worked hard in the fields and at their housework. The husbands are using improved farm machinery, but the women still struggle along washing the family's clothes at a spring remote from the house and doing the family cooking in the big open fireplace. Sanitary arrangements are primitive. In one county only 25 families had any toilet facilities. Water is usually brought from a distant well or spring, frequently contaminated.

In one-fourth of the homes there were five or more persons in every sleeping room. Instances are by no means rare where as many as ten persons were found in a single room. This did not occur in a community of foreigners or in a city slum or among the children of drunkards. Only one-fourth of one per cent of the people of the state are of foreign birth. Ninety-five per cent live in the country or in towns of 4,000 or or less. The state has been dry since 1909.

We talk quite sagely about giving the immigrant mother some knowledge of American conditions and teaching her American standards of child rearing. Might it not be well to bring some knowledge of Americanism to the mothers of North Carolina and other states where similar conditions exist? Many arguments have been presented during the past generation by the mothers of America for the extension of suffrage to women. None has been so powerful as the simple narrative of Miss Julia Lathrop, chief of the children's bureau.

"Who will speak for the inarticulate children of North Carolina? Their fathers have spoken for them for a hundred years, and one-fourth of all the children under fourteen years of age employed in manufacturing and mechanical establishments in the United States are in that state. The third largest number of all the children between 14 and 16 years of age working more than eight hours a day are in the same state. Twenty per cent of all the total wage earners employed in canning and preserving are under 16; 23 per cent of all the persons employed in cotton mills are between 12 and 15 years of age; 41 per cent of all employed in silk mills are under 16; 28 per cent of all employed in knitting mills are under 16.

"Two-thirds of the white children and three-fourths of the negro children from 5 to 15 years of age in the country districts help in the fields, cultivating, and harvesting the crops. In the more remote backwoods district nine-tenths of the children are so engaged. Many were found working from sun to sun. The reason for this is that child labor is frequently cheaper than machine labor. One father of eight children said that he 'did not buy a corn planter because he already had eight.'

"These children should be in the school instead of at work. Between the ages of ten and twenty, from one-tenth to one-third of the children were unable to read or write, although the law makes attendance at school compulsory.

"If the babies and children of North Carolina are to have an opportunity to live down dirt, bad food, foul air, and exploitation, the women as well as the men of North Carolina must be their spokesman."

sion:

"Mr. Clark's plea for the Southern mill owners was most interesting. It aroused a line of thought in my mind which has often occurred to me in the past. He complained of ungracious statements made and asked for a square deal and that the facts should be dealt with always with strict accuracy. I wish I could encourage him to feel that the mill owners would get that sort of a square deal but no such encouragement can be held out as a matter of fact. I would like to give warning that instead of getting more nearly a square deal in the sense of more nearly accurate statements it is likely in the future to be less of a square deal because that is the history of all active movements directed against serious evils."

Then the suave Mr. McKelway moved a vote of thanks for my message and I left their hall with only one regret and that was regarding my limitations as a speaker which prevented my being more effective.

The next morning practically every newspaper in the United States carried the story on the front page, usually in large headlines, and my editorial comments followed.

I had accomplished my purpose, which was to get before the people of the country a denial of the child labor stories that were being continually told and one New York paper expressed the surprise that the denial had been so long delayed.

The *Charlotte Observer* very kindly said:

"In a way entirely his own Mr. Clark has performed a service to the industrial interests of the South in particular and to the wholesome enlightment of the country in general."

A few weeks later while spending a Sunday in Boston I noticed that Owen Lovejoy, secretary of the National Child Labor Committee, was to make an address that afternoon at the Tremont Theatre.

I happened to meet W. D. McNeil of Fayetteville, N. C., and we decided to hear Lovejoy.

When we reached the threatre we found it packed and only managed to get seats on the next to the last row in the top balcony.

It was the kind of audience that pleased Lovejoy and he went the limit. Among other things he said:

"Down in North Carolina, children of six and seven years of age are slaving in the cotton mills and I have photographs of them."

Bill McNeil went with me to the back of the stage, where I asked Lovejoy why he told such a lie. He did not take offense but gave us his authority photographs taken by a man named Hines.

After long correspondence, Hines gave the name as Britt and the place as Lumberton.

I sent a representative to Lumberton and found that a farmer named Britt had been given a house in the mill village, free while dying of blood poison. His wife tried to earn a little money in the mill but his daughters, eleven and thirteen (not six and seven), had never worked a single day and were at home when photographed.

I placed all this information in the hands of Lovejoy, but he continued to present his photographs to audiences as

(Continued on Page 16)

Selfishness vs. Humanity

Just a few years ago there were 87,500 children under ten years of age slaving their baby lives away in the cotton mills of Georgia.

Day after day, month after month, these pitiful little tots labored ten hours a day, six days a week—sixty hours for the miserable pittance of from 60 to 90 cents a week.

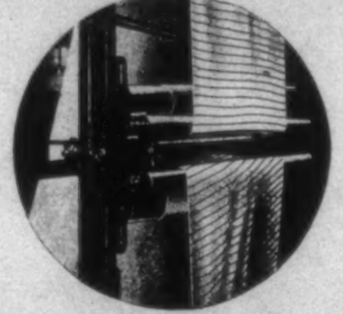
The Open (Non-Union) Shop men who owned the mills rode in their carriages and automobiles on the profits derived from the little fingers of these emaciated, untaught children. — *Tulsa (Okla.) Daily World.*

North Carolina Child Labor Bill

After a long fight the North Carolina house of representatives killed by a vote of 63 to 29 the Battle bill, which provided for a minimum age limit of 14 years.

The Wall bill which limited the hours of work to 60 per week was passed by a vote of 45 to 23 and will probably pass the senate also.

Happy mill children at play on May Day in a typical mill community.



WOULD you save labor, time and the waste on straightening the weft?

No more wages for straightening the weft in piece goods, and no more "seconds" due to human "hands" getting tired or careless.

The "L & L" Combination Weft Straightener and Compensator

PATENTED

does the work with perfect surety, and requires only occasional adjustment by a boy or girl who may have other duties.

SIMPLE IN CONSTRUCTION
NOTHING TO GET OUT OF ORDER
CAN BE PLACED ANYWHERE

H. W. BUTTERWORTH & SONS COMPANY

ESTABLISHED 1820

Providence Office, Turk's Head Building PHILADELPHIA

FINISHING
Butterworth
MACHINERY

proof that children of six and seven years of age worked in North Carolina mills.

I was hardly through with Lovejoy before A. J. McKelway broke out with a new form of attack in Washington.

He went before the Commission on Industrial Relations and gave testimony which, according to press reports, showed that many men in Southern cotton mills received only $2 per week.

I hurried to Washington and soon discovered the source of his juggled figures.

He had dug up some old figures of the years previous and in them, as is always the case, were given the wages of men who worked only one day or two days of the week investigated.

McKelway tried to hide that fact but when pushed by Chairman Walsh to state how to determine the daily wage finally said to divide the amount given by 6, which placed the daily averages as 33-1/3 cents per day.

I had a hard fight to get a hearing before the Commission on Industrial Relations but was finally given a fifteen-minute hearing and completely refuted the McKelway testimony, which, however, was a very easy matter for, once in his life, McKelway had taken a chance and left himself in a vulnerable position.

I had not thought that Congress would pass any Federal Child Labor Law, but the House, by a vote of 233 to 43, passed the Palmer-Owen Bill, which prohibited the interstate shipment of the product of mills that employed children contrary to the provisions of the laws.

The Americn Cotton Manufacturers' Association passed a resolution condemning the Palmer-Owen Bill, but I had seen enough of those behind the measure to realize that there must be organized opposition.

I wrote to Capt. Ellison A. Smyth, of Greenville, and urged upon him the necessity of forming an organization.

I suggested that he invite three prominent mill men from each State to meet in Greenville for a conference.

At that meeting the executive committee of Southern Cotton Manufacturers Association was formed with the following members:

S. F. Patterson, Roanoke Rapids, N. C., chairman; W. C. Ruffin, Mayodan, N. C., A. F. McKissick, Greenwood, S. C., Harry Meikleham, Lindale, Ga., Scott Roberts, Anniston, Ala., T. L. Wainwright, Stonewall, Miss., and Garnett Andrews, Chattanooga, Tenn.

I was elected secretary and treasurer.

W. C. Ruffin died and Harry Merkleham asked us to substitute W. J. Vereen in his place, but otherwise the committee remained intact and conducted the fights against both Federal Child Labor Laws, the successful test of their constitutionality and the campaign against the Federal Child Labor Amendment.

A Question Of Judgment

Two men were hotly discussing the merits of a book. Finally one of them, himself an author, said to the other, "No, John, you can't appreciate it. You never wrote a book yourself."

"No," retorted John, "and I never laid an egg, but I'm a better judge of an omelet than any hen in the state."

Soon after the organization of the committee I began to make plans for fighting or at least delaying the Palmer-Owen Bill.

When Congress met again the Keating-Owen Child Labor Bill was introduced as a substitute for the Palmer-Owen Bill of the last session and acting for the executive committee of Southern Cotton Manufacturers, I employed ex-Gov. W. W. Kitchin of North Carolina to assist me in opposing same. Gov. Kitchin had formerly been in Congress for 12 years and from him I learned much.

It was proper that the Keating-Owen Bill should go to the Judiciary Committee but McKelway wanted it to go to the Labor Committee and finally won.

Finally the hearing was held and we put on a number of witnesses, including prominent doctors, but very little attention was paid to their testimony and within a month the House passed the bill by a vote of 337 to 46.

The bill then went to the Senate and we had a number of prominent mill men and doctors give testimony in opposition, but the influences seeking the enactment were too strong to overcome.

We found that the Mother Congress, an organization of women, was inclined to listen to reason and brought several of their officials on a visit to our mills and they returned much opposed to the bill.

We worked hard to prevent the passage of the law and had it sewed up for that session when McKelway, in des-

Growing Southern mill communities do not depend on child labor.

peration, induced Woodrow Wilson to go to the capital and demand, of the Senators, that it be passed, and in August I sat alone in the Senate gallery while a thunderstorm raged without and heard the bill passed 52 to 12.

In an adjoining gallery sat McKelway and his women cohorts with beaming faces and in their moment of victory they enjoyed watching me.

They thought they had won and that in the future they would control the labor affairs of the forty-eight states and the cotton manufacturers almost unanimously shared their opinion. Most manufacturers advised against any further fight and some, as is always the case when you lose, criticized me for having opposed the law.

I was convinced that Congress had no right to enact any such law and determined to carry it to the Supreme Court, and I set about raising the necessary fund.

Many mill men said I was wasting money but on account of the previous fight I had made were willing to contribute.

I knew that Junius Parker, formerly of Graham, N. C., was rated as one of the top notch lawyers in the country and I went to New York and successfully negotiated for the employment of his firm, O'Brien, Boardman, Parker & Fox.

At the suggestion of W. C. Ruffin, I employed Manly, Hendren & Womble, of Winston-Salem, N. C.

I was later able to add Judge W. P. Bynum, of Greensboro, to our legal forces.

I asked the attorneys to decide the kind of test case that would be most effective and with that information spent weeks in search of the exact type of case and prepared three.

Roland Dagenhart, who was working at Fidelity Mills in Charlotte, had two sons, one 13 and the other 15, and was very much opposed to the 13-year-old boy having to leave the mill and the 15-year-old boy being limited to eight hours.

My attorneys prepared an application for an injunction to prevent the Government from interferring with the Dagenhart boys, and Dagenhart gladly signed same.

The notice that the law would be tested was received with expressions of rage by McKelway and his associates and the press of the United States was very severe in its condemnation. Many manufacturers urged me to withdraw the test case but I refused to do so.

Eventually the application of Roland H. Dagenhart for an injunction against the Federal Child Labor Law was filed and hearing was set before Judge James Boyd at Greensboro, N. C.

Most people and many manufacturers expected Judge Boyd to refuse the injunction, but after an extended argument on both sides, Judge Boyd granted the injunction and declared that the Keating-Owen Child Labor Law was unconstitutional.

The decision brought an outburst of abuse from almost every section of the United States, directed both at David Clark and Judge Boyd.

I called a meeting, in Charlotte, of the mill men located in Judge Boyd's district and convinced them that it was safe to ignore same, but the situation was complicated by contrary advice given by the secretary of the Hard Yarn Spinners' Association.

The question of the constitutionality of the law had been passed up to the U. S. Supreme Court and it made no difference to me what any mill did pending the decision.

Realizing that a great deal of the criticism of the cotton manufacturing industry of the South was due to lack of information, we conceived the idea of publishing a "Health and Happiness Number," and issued our first of that kind filled with photographs of our mills and their welfare work and it was sent to members of Congress.

Although not nearly as large or as handsome as three later "Health and Happiness Numbers," it attracted much favorable comment.

As the Dagenhart case, the test case of the Federal Child Labor Law, was soon to be heard by the United States Supreme Court, I spent much time during the next weeks in New York and Washington in conference with the attorneys.

After some delay the Dagenhart case was heard before the Supreme Court. Solicitor John W. Davis, afterwards a Democratic candidate for President, argued the case for the Government, while Judge Morgan O'Brien, of New York, and W. M. Hendren, of Winston-Salem, N. C., argued our side.

In our editorial at that time we said: "There is a general opinion that this court will divide 5 to 4. We believe that the 5 will be on our side."

I do not believe that there was a single cotton manufacturer who believed that we would win, but several months later my phone rang and a newspaper friend shouted "You won 5 to 4."

→

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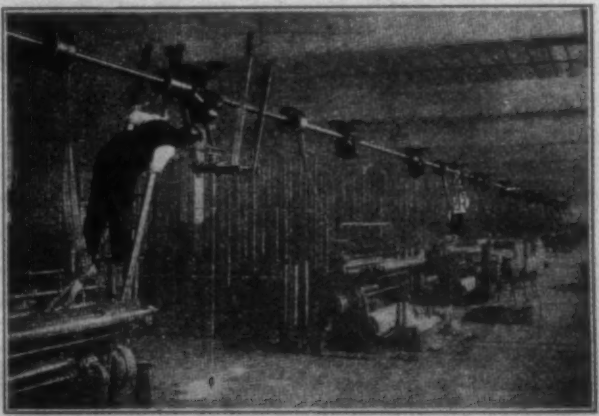

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I ran all the way to the newspaper office to get the dispatch saying that the United States Supreme Court had, by a vote of 5 to 4, declared the Keating-Owen Child Labor Law unconstitutional.

There was intense rejoicing among our friends, but just as intense anger among the advocates of the measure, and the abuse which had been applied to Judge Boyd was shifted to the United States Supreme Court.

Speeches were made in Congress accusing the Supreme Court of setting aside the will of the people and bills were introduced having for their object the curtailing of the powers of the court.

The radical press raved and ranted and I came in for my share of the abuse, but the old maid inspectors had to pack their trunks and leave and the textile industry was freed of Federal domination.

Letters and telegrams of congartulation flooded us and many mill men thought the fight was over, but we knew better, and very quickly another law was introduced which sought to tax out of existence all articles not made under child labor conditions specified by the Government.

An effort was also made to get the War Labor Policies Board to put the provisions of the Keating-Owen Law into all Government contracts but I managed to defeat that movement.

With the Federal Child Labor Law declared unconstitutional, the parasites began another campaign of abuse against the cotton mills of the South, and in order to counteract same we began the preparation of our second "Health and Happiness Number," a beautiful edition of more than 300 pages, which was very widely distributed.

As soon as Congress met, the new movement for a Federal Child Labor Law came with the attachment of a rider to the Revenue Bill, placing a prohibitive tax upon goods made with children employed contrary to provisions which were identical with those of the former Child Labor Law.

We realized that Congress was angry with the Supreme Court and was going to pass the second Child Labor Law as a matter of spite. We also realized that as it was attached to the Revenue Law, which had to be enacted before March, there was little opportunity to delay its passage.

Just for spite, however, we had an amendment drawn placing the enforcement of the new law under a special bureau in the Treasury Department.

We managed to get this adopted and Miss Grace Abbott and her Children's Bureau cohorts were not able to get their claws upon any of the funds appropriated for the enforcement of the law.

I got about as much pleasure from leaving Miss Abbott and her parasites out in the cold as they did from the passage of the law, and I was confident that the law would be declared unconstitutional.

Just as soon as it passed, I employed all the lawyers that had been employed in testing the former law and we held a conference in New York to determine the best method of testing the constitutionality.

We returned to Charlotte and prepared the test case under which Eugene T. Johnston applied to the Federal Court for an injunction to prevent Atherton Mills from refusing to employ his son, John W. Johnston, 15½ years old, for more than eight hours a day, thereby reducing his earning capacity, and the hearing was held before Judge Boyd in Greensboro.

Judge Boyd declared this law unconstitutional and again the anvil chorus broke loose and I received my share of the abuse.

The case was, of course, appealed to the United States Supreme Court where there was great delay, but the case was finally heard, our side being argued by W. M. Hendren, of Winston-Salem, with a brief that had been prepared by all of our attorneys after numerous conferences and discussions. It was many months after that before the court rendered its decision.

About that time we issued our third "Health and Happiness Number," which was sent to all the public libraries in the United States, and we believe it did much to teach people that the cotton mill conditions were better than they had been represented.

Contrary to general expectation, the United States Supreme Court did not render the Federal Child Labor decision before they adjourned, and during the Summer I realized the startling fact that the 15-year-old Johnston boy who had applied for the injunction would be sixteen before the court met in October, and if anybody discovered that fact the case would be thrown out without a decision.

I held a conference of my attorneys and decided to start another test case at once.

The law provided that if a child worked in a mill for even one day contrary to its regulations, the company should pay a fine of 10 per cent of its entire year's profits.

We desired to find some mill that had been fined and to make a test case by having them refuse to pay.

Much to my surprise I found that most every mill that had been assessed had paid. I finally found that the Drexel Furniture Company had not paid a fine of $6,300 and arranged for them to refuse to pay.

The Drexel Company case was pushed through the lower courts and an agreement made to consolidate it with the Johnston case and we were safe.

After much delay the United States Supreme Court heard rearguments on the test cases of the second Federal Child Labor Law, our new case of the Drexel Furniture Company being the real case under consideration.

The rehearing was due to the new cases brought up and to the fact that there had been many changes in the personnel of the court. Former President Taft was now Chief Justice of the Supreme Court.

After hearing the arguments we had no doubt that the law would be declared unconstitutional.

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We soon received a wire stating that we had won our case and that the U. S. Supreme Court had, by a vote of 8 to 1, declared the second Child Labor Law unconstitutional.

Again a wave of abuse swept over the Supreme Court, who were declared to have nullified the will of the people, and I came in for a goodly share of the vituperation, but I was happy, and again the Federal inspectors packed their trunks and went home.

I knew that the fight was not over but had won a great and important point by establishing that Congress could not directly legislate to control the labor of persons in the states.

I believed that a constitutional amendment giving Congress the right to prohibit certain kinds of labor was a far less serious matter than the establishing of the principles of the right to directly legislate.

Had it been established that Congress could prevent child labor by prohibiting the shipment of its products or by placing prohibitive taxes upon those who employed child labor, Congress could at will use the same powers to fix the hours of labor and the wages paid, the education of the people or dominate the affairs of the States in a hundred ways.

I knew that a constitutional amendment was far preferable to either of the former Federal Child Labor Laws.

The National Child Labor Committee and the Children's Bureau crowd were evidently dazed by the second knockout and did not make any more for some time, but I made frequent trips to Washington and kept close watch on them.

A flood of bills was introduced which contained constitutional amendments giving Congress the power to regulate child labor and in a moment of pessimism I predicted that one of them would be passed and would later be ratified by the States.

At a hearing held before a sub-committee of the Senate Judiciary Committee, I sprang a surprise upon our opponents by presenting E. F. Carter, Chief Inspector for North Carolina and A. H. Gilbert, Chief Inspector for South Carolina, both of whom testified that the child labor laws of their states were obeyed. W. L. Long, of Roanoke Rapids, spoke and I closed with an exposure of the manipulated statistics that had been presented by Miss Grace Abbott.

As Congress was soon to adjourn, there began a desperate effort on my part to delay its passage.

It required all the experience that I had acquired at Washington to keep stumbling blocks in its way but I won and Congress adjourned without its enactment.

I knew that I had only delayed its passage but felt that every delay gave us an advantage which later proved to be well worth while.

Learning that the Children's Bureau of the United States Department of Labor were conducting an unfair campaign and spending Government money for the proposed Federal Child Labor Amendment, I filed a vigorous protest with Secretary J. J. Davis and had considerable correspondence but accomplished nothing.

Realizing that the advocates of the proposed amendment were going to start a campaign of lies about Southern cotton mills, we issued another "Health and Happiness Number" of over 300 pages showing the true conditions of our mills and villages.

I soon realized that it would be impossible to prevent the passage of the Federal Child Labor Amendment and therefore took the only route left, which was to play for delay, but could accomplish little along that line.

I went to one hearing before the Judiciary Committee and it was with difficulty that I could arrange for another date for my witnesses.

At the first hearing a tall slim man arose and asked for permission to file a brief in opposition to the amendment without reading same.

A lady who was opposed to the amendment came over to me and whispered excitedly, "Did you see that? Do you know who that was?"

It was Gray Silver, Washington representative of the National Farm Bureau Federation, a man who had almost always been found on the side of the bureaucrats and radicals.

The fact that Gray Silver had opposed the amendment, even reluctantly, showed that there was strong farmer oppo-

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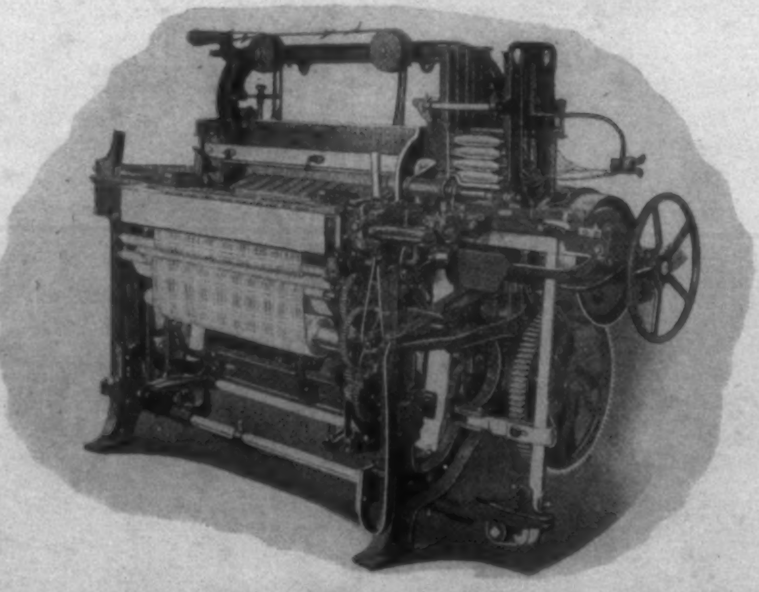

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NOTICE

The Walterboro Cotton Mills is now running on full time and can give employment to family help, such as spinners and doffers, speeders and card room help of all kinds and weavers and drawing-in hands. Can give employment to all family help. We pay as follows:

Picker Hands, $1.10 per day
Card Hands, $1.00 per day
Drawing Hands, .90 cents per day
Slubber Hands, $1.25 per day
Intermediate Hands, $1.10 or 6½ cents per hank
Speeder Hands, 9 and 9½ cents per hank
Roving Hands, $1.00 per day
Spinners, 12½ cents per side
Doffers, 5 to 80 cents per day
Oilers and Banders, 90 cents to $1.00 per day
Roving Hands, $1.00 per day
Sweepers, $1.00 per day
Section Men, $1.25 per day
Warper Tenders, $1.25 for three fronts
Spooler Hands, 10 cents per box
Bobbin Man, $1.00 per day
Weavers, per cut 27 cents
Fixers, $1.50 per day
Oilers, $1.25 per day
Filling Haulers, $85 to 90 cents per day
Drawing-in Hands, 22-1/3 cents per beam

We have good houses and good water and cheap rent. We have just organized a first class baseball team and would be glad to hear from any good base ball players. We can give them work in mill at good wages and we have a nice ball park. This is one of the best hunting and fishing places in the South, as we have fine fishing and hunting grounds and water nearby. The health of our town is the best. We will furnish transportation for good help and families. Apply to the following in person or by letter.

L. B. Lane, overseer carding, or to J. H. Clough, overseer spinning, or W. D. Warren, overseer weaving, or to D. E. Clough, superintendent and general manager.

Walterboro Cotton Mills
Walterboro, S. C.

sition developing and a great light seemed to spread out before me.

I told our friends to see that perfunctory amendments eliminating farm labor and reducing the age limit were offered and recorded for future use.

I knew that Miss Abbott and her gang were too sure of themselves to allow the amendments to be adopted and I did not think she had sense enough to realize the after effects.

I appeared at the adjourned hearing the next week, and although so ill that I had to be granted permission to sit, I created considerable heat on and off the committee but I never worried about the amendment after the appearance of Gray Silver, for I knew the latent power of the farmer.

The Amendment Resolution passed the House and went to the Senate where a hearing was refused but opponents tied it up for a while.

After carefully studying the situation I went to Washington and sent my card to a certain Senator.

When he came out he said, "The amendment can be delayed and it is possible to prevent its enactment at this session but the pressure is very heavy."

I said, "Senator, I came here to tell you to let it go. I think the time has come to go to the mat with the bureaucrats and I am confident that I can give them a licking from which they will never recover."

He was pessimistic about success but withdrew active opposition to the amendment.

As soon as I could get back to Charlotte I began to plan a national campaign in opposition to the amendment, which I soon inaugurated.

Even before the Federal Child Labor Amendment resolution was adopted by the Senate, I had covered a good portion of the country and my campaign was mapped out.

I aided in organizing a central committee in Washington and in getting their finances, but took the precaution of saving $5,000 with which to conduct a publicity bureau of my own from Charlotte. Our enemies accused me of expending over $1,000,000 but the truth is that the Washington committee had a total of less than $25,000 and I personally expended under $5,000.

The successful campaign against the Federal Child Labor Amendment was interesting from beginning to end.

It was the most complete reversal of sentiment in the history of the United States and was due largely to publicity which made people realize that they had been grossly deceived about child labor in the Southern mills.

Only four States ratified the amendment and one of them was ready to reverse its action.

The campaign required practically all of my time for eight months, but I thoroughly enjoyed it, as I formed acquaintances and friends in every section of the United States and I played a part in breaking the back of a great effort to centralize power in Washington and to eventually destroy our system of Government.

It gave me great respect for the powers of observation of the American voter, but it also showed me the weakness of our system of representation in Washington, for it showed that our Congressmen and Senators from many States voted unanimously for the amendment only to later see their State Legislature unanimously reject same.

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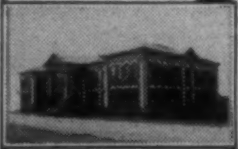

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PATTERSON HALL—AGRICULTURE

The Future of the Motor Truck

IF YOU think of the modern motor truck as still in the experimental stage, or as simply a pleasure car adapted to commercial needs, you do it and your business a great injustice.

The motor truck is a product of the age—of the modern inventive genius and financial faith—a wage earner like the rest of us, doomed as we all are to face the acid test of character and adaptability.

The motor truck is here because evolution has made us ready for it, because the twentieth century needs it.

If you think there are no sound economic reasons for its adaption just study these facts:

In ten years, the retail price of horses has increased on an average of 105 per cent.

In ten years the cost of hay, oats and straw has increased almost 150 per cent.

In ten years, real estate in our great cities has increased at a phenomenal rate, making the taxes on ground devoted to stables in the heart of our cities almost prohibitive.

In ten years, the volume of street traffic in centers like New York and Chicago has increased 300 per cent, making relief from present congested conditions imperative.

In ten years the motor truck has grown from an idea to not only a commercial success, but to a positive necessity.

In ten years the cost of gasoline has been reduced almost 100 per cent.

In ten years the cost of electric current for electric vehicles has been reduced from an average of probably 12 cents to as low as 3 cents a kilowatt hour.

Here, then, are some economic reasons for the motor trucks. There are many others, but these are sufficient. They tell very plainly why it is here, and what is more important—why it has come to stay.

In considering any method of transportation there are three things to examine. The road, the load and the vehicle. In trackless transportation, the road must be accepted as it exists. In practically all work, the load must be accepted as it is received, and it must be delivered as ordered. These two factors of transportation are the same, no matter what method is employed. Hills, bad roads, frequent stops and starts, long routes or heavy loads are equal in the demand on animals or machines of any kind. The third factor, the vehicle, is the only one with which the solution of transportation problems can be made any easier.

Just as the electric street car has solved the problems for passenger transportation in cities, so has the electrical driven power wagon opened the way to a simple trucking and delivery system in practically all lines of trade.

The electric vehicle for trucking delivery is purely a mechanical proposition. It is a machine. Like other machines, it can be built to do a given amount of work in a definite amount of time at a certain cost under any known conditions.

The safely carried load in pounds or tons is the basis of its mechanical design and construction. The specified speed with full load on hard level determines how much power will be required. The specified duration of continuous operation at full load on a hard level determines the amount of energy that must be stored in its battery at one time. The last condition fixes the size of the storage battery. The power and speed required determine the size of the motor and gear ratios, while the total weight affects the tire design.

The cost of transportation by electric vehicles can be determined just as logically as the cost of operation of any other machine. It is merely a question of measuring the work and measuring the cost, and of placing one against the other.

Accurate engineering can be applied to the problems of transportation with greater satisfaction with electric vehicles than with any other type. Electrical measuring instruments reveal the condition and performance of storage batteries, and electric motors. The cost of producing electricity is a known quantity, the amount of electricity necessary to charge a battery is measurable.

The horse is slow, unsanitary, short-lived under city conditions and the opposite of economical when compared with the motor truck. The motor truck never gets sunstroke, it does not have to work alternate days only, it gets no broken legs from slippery pavements, it never gets sick or runs away, it takes up less room and it has 100 per cent greater working capacity than the best horse.

Yes, business demands the motor truck. It has tried out the power wagon and proved its value. The motor truck fleets of the country are multiplying at a surprising rate, fleets of 50 electrics being quite common. The gas truck with its greater radius of action has many adherents, and it looked for a while as though it would dominate the field, but as about 80 per cent of all our trucking and deliveries is found in our cities, and the electric is essentially the more economical in short haul, frequent stop work. Its friends have no fear for its survival.

The Working Girl's Problems

By MISS MAMIE BURNS, Ware Shoals, S. C., before Southern Textile Assn.

I am not only in sympathy with the working girl, for I am one myself, but honor her far more than any parlor doll or fashion fanatic.

I began to be a wage earner at the age of 12 years and during the many years I have been employed in our Southern cotton mills I have found many things to be commended, but nothing on earth, in the mill or out, ranks higher than a pure woman. The reason so many women are failures, is because they shrink from, and are ashamed of, their employment. Nothing is more disgusting than to see a woman evade truth concerning her circumstances in life. Through her false pride, she loses the keenest enjoyment of her labor and casts reflection upon her courage, independence and intelligence to strike out for herself. I have sincere pity and compassion for the girl who will wilt and droop in the face of honest toil. To the girl who can, and will brace up, reach out, striving for attainments on a higher plane, with a courage firm and strong, trampling down petty obstacles which arise to impede her progress, is my sincere admiration given. She is the girl upon whom employer, friend and foe alike may depend.

Because your lot is cast as a mill girl, do not shrink from your labors, or hesitate to openly, truthfully proclaim your honest station in life. Rather blush for duties left undone and strive with a determination of stability to rise above all that does not measure up to your standard of idealism. And as you rise above detrimental impediments, by self-improvement, put forth every effort with womanly purity, and perseverance to improve, and bring out all the higher latent traits of character of those with whom you daily labor.

What is the caliber of the true working girl? She has patience, she has ambition, she has many high ideals as to what constitutes a noble woman. She believes that "not failure but low aim" is ignoble and unworthy of a true girl.

High ideals inspire one to noblest endeavor, and so she presses the battle to the front in building character, uplifting others, rescuing the wayward, and in conscientiously discharging her daily labors. The dress problem is one of the greatest to our working girls, yet I am glad, more glad than I can express, to know that in this, as some other moral virtures, we do excel some other classes. The girl who will dress, sensibly, modestly, and within her means, defying extreme fashions, is indeed commendable. Don't let fashions sway your good judgment, causing you to unnecessarily to strain your earning power, or go beyond your honest means to satisfy the tempter.

A dollar hat on the head of a pure character is far preferable to a sixteen-dollar hat upon the head of a questionable party.

Another and more serious problem of the working girl is undue familiarities with young men with whom they are thrown in contact, even sometimes their employer. Personally you may have no evil thought whatever, but we must avoid even the appearance of evil, for it is a detriment to our good name, our moral standards, and may eventually cause the loss of your position, and set the evil tongue of scandal to gossiping lightly with your true character. Resist with womanly dignity the least undue familiarity on the part of any man. We do not need protection for our good name, it is in our own keeping, and by cultivating purity within, we radiate purity outwardly.

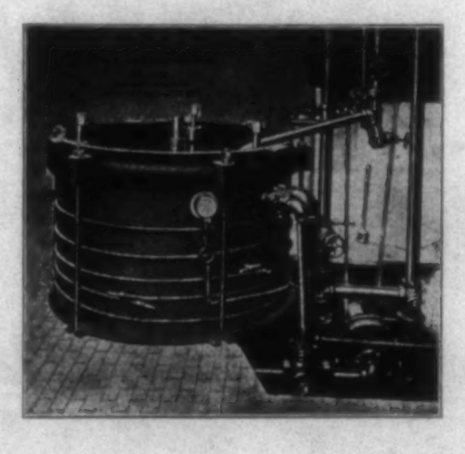
Following upon, and closely akin to this evil, is the "dope habit." The girl who stands in public places, with the bottle neck in her mouth cheapens her own character, and she who practices it elsewhere, in any instance, weakens her own moral and physical strength, saps her vitality, and eventually enslaves her in its habit, with little power of resistance left to fight other battles. Character is what you are, reputation is what people think you are. The world today needs women of strong unwavering courage, of true character, who dare to do, and stand for right because it is right. We need true girls in all branches of the varied industries and business world, of which the cotton mill is the South's greatest and fast becoming the world's greatest. The mill girl has in the past had the least advantage, most unfavorable environments under which to labor and achieve success. But by faithful work and perseverance we are coming into our own; the day is not far distant when we shall stand recognized equals to any and superior to many classes. Our welfare workers represent machinery set in motion to improve and elevate our every-day life and moral

PRIZE WINNER—The magnificent float of the Newberry Cotton Mills, which took first prize in the merchants' parade and trades display during Chautauqua Week at Newberry, S. C., is shown above. On the float are shown Misses Mabel Reynolds, Mary Hardeman, Lessie Bouknight, Marie Evans, Grace Thomas and J. G. Carroll, the driver. There were 35 floats in the parade.

ECONOMY IN DYEING

THE PSARSKI DYEING MACHINE

Reduces
The
Drug
Bill



Saves
Steam
Saves
Water
Saves
Labor

Sulphur, Developed and Vat Dyes Done Equally Well

RAW STOCK DYEING---

The stock goes to the carder in as perfect condition as out of the original bale.

BLEACHING—The cotton is bleached and washed Perfectly Clean (free from chorine or acid) in 3½ hours to a batch.

SKEIN DYEING---

No boiling out. No tangles. Yarns are left in perfect condition for winding, knitting, etc.

HOSIERY---

The machine recommended for this purpose dyes 300-350 lbs. to a batch, Sulphur or Developed Blacks. Singeing and Sorting eliminated—No Damaged or Seconds.

Ten to Twenty Per Cent. Saving in Drugs

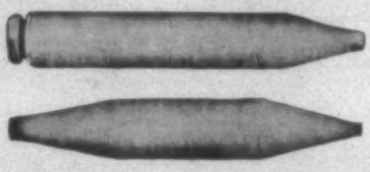
The Psarski Dyeing Machine Company

CLEVELAND, OHIO

F. J. MUIR, Greensboro, N. C., Southern Agent

virtues. Don't fear, or hesitate to go to them with the most trivial worry that threatens your moral welfare. Most of our welfare workers are of staunch courage, accomplishing much good and if the hundreds of thousands of lost girls in the United States today could have enjoyed the advantages of the welfare workers' counsel, and sympathy, they would not today be social outcasts, but honest working girls. As you go through this magnificent building viewing your own work tastefully finished and artistically exhibited try to grasp the fact that you are part and parcel of this, the South's greatest industry, and upon you rests the responsibility to help it grow and expand into broader fields, and upon a higher plane. Measure yourself, your life, your work, and set your standards, remembering you cannot place your ideals beyond attainment if you embody them in purity, courage, and reliance in the right.

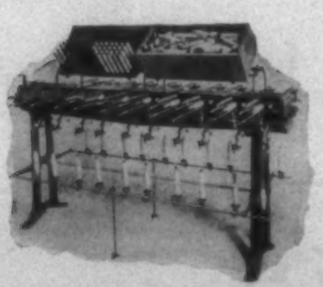
Then indeed will we become cornerstones, polished after the similitude of a palace.



WEAVERS WANTED?

Mills in need of weavers should investigate the "UNIVERSAL" system of rewinding filling by which each weaver can operate at least 50% more looms, and in addition increase production 5% per loom.
Plain looms—two, three, four and six box looms on ginghams, fancies towelings, damasks, etc.

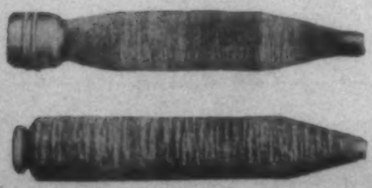
Not Theories But Facts Proved by Mill Installations



No. 90 "UNIVERSAL" winds on any kind of Bobbin from Cops, Frame Bobbins, Spools or Skeins. A high speed self-oiling machine with interchangeable parts.

UNIVERSAL WINDING CO. BOSTON

Southern Agent W. P. HAZLEWOOD, Atlanta, Ga.



Cotton Goods Department

New York—It is said that buyers have taken more interest and watched the market more closely than during the previous week.

The condition report showing a marked decrease in the cotton crop prospects has undoubtedly had a strengthening effect upon the market and has increased the courage of the buyers.

More inquiries are being received from certain large distributors of staple cotton goods, as to supplies on hand at the mills, and the lowest quotations agents will make for forward deliveries.

Prices are very much more firmly held in the greige goods end of the market than was the case last week, and both printers and converters are now showing more of a disposition to cover their requirements through the fall and into the winter months.

The shortening of discounts of certain lines of bleached goods practically represent an advance, and some of these lines are now said to be fairly well under order.

Inquiries and some orders are being received on Osnaburgs, but as a rule buyers are not willing to meet the recent slight advances named on certain goods, but brown cottons have been moving to some extent, and supplies are reported to be unusually light for anything.

The Fall River print cloth market was one of unusual activity last week, and the manufacturers are wondering if it is to continue. For many months the market has been in poor condition, but the trading last week seemed to put it on a firmer basis. The total sales amounted to 200,000 pieces, while the previous week's sales amounted to only 130,000 pieces.

There was a good demand for 38½-inch 64 by 64s, wide regulars, but the price of the mills was higher than the buyers cared to pay for this particular style. An ineffectual attempt also was made to gather in 64 by 60s but the manufacturers held out for better prices. On 27-inch, 56 by 566, there was an increase in the bid, while 38-inch, 63 by 72, remained the same as the previous week.

New York—Current quotations on cotton goods in New York are given as follows:

Print cloths, 28-in., std....	3½
28-inch., 64x60s	3¼ to 3$\frac{5}{16}$
Gray goods, 39-in.	
68x72s	5⅛
38½-in. std.	4⅝
4-yds., 80x80s	6⅜
Brown drills, stds.	8
Sheetings, southern std..	8
3-yard	7½
4-yds., 56x60s	5¾ to 5⅞
Denims, 9-oz.	13¾ to 17
Hartford, 11-oz.	
40-in. duck	17
Tickings, 8-oz.	13½
Standard, fancy pts........	4¾
Standard ginghams	7
Fine dress ginghams......	7½ to 9¾
Kid. fin. cambrics........	3¾ to 4

Weekly Visible Supply of American Cotton

August 25, 1911	**892,785**
Previous week	**782,463**
Last year	**790,179**

Weekly Cotton Statistics

New York, Sept. 1—The following statistics on the movement of cotton for the week ending Friday, Sept. 1, were compiled by the New York Cotton Exchange:

WEEKLY MOVEMENT

	This yr.	Last. yr
Port receipts	——	58,317
Overland to mills and Canada	——	917
Southern mill takings (estimated)	——	5,832
Gain of stock at interior towns	——	2,902
Brought into sight for the week	——	68,298

TOTAL CROP MOVEMENT

	This yr.	Last. yr
Port receipts	8,852,235	7,491,731
Overland to mills and Canada	970,961	865,459
Southern mill takings (estimated)	2,252,032	2,151,832
Stock at interior towns in excess of Sept. 1.	——	31,344
Brought into sight thus far in the season..	12,074,938	10,513,022

Two men rushed out of a big hotel, hailed a passing taxi, and hopped in, saying to the driver: "Hurry it up, son." They talked excitedly as the taxi raced along. They rode for fully an hour and a half, when suddenly one of them glanced at the indicator and said:

"By gum! We must be near there," and then leaning out of the cab window, he yelled: "Hey driver, aren't we near there yet?"

"Search me? Where are you going?" came back the puzzled reply.

The Yarn Market

Philadelphia, Pa. — Some dealers claim that they did a fair business in cotton yarns during the past week and at better prices but the market on the whole has been irregular. Both weavers and knitters were in the market and bought for prompt and future deliveries, but knitters bought larger quantities for future deliveries than did weavers.

Underwear manufacturers claim that they are not getting any but small orders and that jobbers are slow to fill their requirements.

On all cheap lines jobbers seem willing to buy freely, in fact, they are willing to sell and this is considered rather good evidence that their conservatism is inspired by a fear of lower prices rather than doubts of being able to sell goods.

The bulk of the business done for the hosiery trade was on combed yarns and there were inquiries out for several hundred thousand pounds of combed yarns for both prompt and late deliveries.

A few weavers have been covering their immediate needs and some believe that prices have reached bottom.

* * *

Southern Single Skeins:

8s	18 —
10s	18 —18½
12s	18½
14s	18½—19
16s	19
20s	19½—20
26s	21½
30s	21½

Southern Two-Ply Skeins:

4s to 8s	18
10s	18
12s	18½
14s	19
16s	19½
20s	20½—21
24s	21½
26s	22
30s	23
36s	25½
40s	29½
50s	32
60s	37 —38

Carpet and Upholstery Yarn in Skeins:

8-3 hard twist	19—20
8-4 slack	20
9-4 slack	20—20½

Southern Single Warps:

8s	18
10s	18 —18½
12s	18½—19
14s	19
16s	19½
20s	20 —20½
24s	21 —22
30s	22½—23
36s	26
40s	28

Southern Two-Ply Warps:

8s	18½
10s	18½
12s	19
14s	19
16s	20
20s	21
24s	22
26s	22
30s	23
36s	26
40s	27½—28
50s	33

Southern Frame Spun Yarn on Cones:

8s	18½
10s	19½
12s	19½—20
14s	20 —20½
16s	20½
18s	21
20s	21 —21½
22s	21½
24s	22 —22½
26s	23
30s	24
40s	28

Single Skein Carded Peeler:

20s	24
24s	24½
26s	24½—25
30s	27
36s	30½
40s	30½—31
50s	37
60s	42 —42½

Two-Ply Carded Peeler Skeins:

20s	24
22s	24½
24s	24½—25
26s	25½
30s	26½—27
36s	30
40s	31
50s	37
60s	42 —43

Single Combed Peeler Skeins:

20s	28 —28½
24s	30
30s	32½
40s	38
50s	44 —45
60s	50 —51

Two-Ply Combed Peeler Skeins:

20s	29—29½
24s	30
30s	33
40s	38
50s	45
60s	52
70s	61—62
80s	72

A. M. Law & Co.

BROKERS

South Carolina and Georgia Mill Stocks

	Bid	Asked
Abbeville Cotton Mills	70	75
Aiken Mfg. Co.	85	—
American Spinning Co.	—	162
Anderson C. Mills pfd.	90	—
Aragon Mills	—	65
Arcadia Mills	—	93
Arkwright Mills	—	100
Augusta Factory, Ga.	60	65
Avondale Mills, Ala.	116	120
Belton Cotton Mills	—	130
Brandon Mills	—	93
Brogon Mills	—	61
Calhoun Mills	—	61
Capital Cotton Mills	80	85
Chiquola Mills	—	167
Clifton Mfg. Co.	—	85
Clifton Mfg. Co.	100	—
Clinton Cotton Mills	—	125
Courtenay Mfg. Co.	—	95
Columbus Mfg. Co., Ga.	—	95
Columbus Mfg. Co., Ga.	92½	100
Cox Mfg. Co.	—	70
D. E. Converse Co.	—	85
Dallas Mfg. Co., Ala.	—	110
Darlington Mfg. Co.	75	—
Drayton Mills	—	95
Eagle & Phenix Ga.	117	—
Easley Cotton Mill	160	165
Enoree Mfg. Co.	—	50
Enoree Mfg. Co. pfd.	—	100
Enterprise Mfg. Co., Ga.	75	—
Exposition Cot. M. Ga.	—	210
Fairfield Cotton Mills	—	70
Gaffney Mfg. Co.	56	—
Gainesville C. M. Co. Ga.	—	80
Glenwood Mills	—	141
Glenn-Lowry Mfg. Co.	101	—
Glenn-L. Mfg. Co. pfd.	—	95
Gluck Mills	—	100
Granby Cot. Mills pfd.	—	38
Graniteville Mfg. Co.	160	165
Greenwood Cotton Mills	57	59
Grendel Mills	—	100
Hamrick Mills	100	—
Hartsville Cotton Mills	—	190
Inman Mills	—	105
Inman Mills pfd.	—	101
Jackson Mills	—	95

Mill News Items Of Interest

Greenville, S. C.—Last week a charter was issued the Dunean Cotton Mills Co. by the Secretary of State. The capital stock of the company is one million dollars. The corporators are C. O. Allen, Capt. Ellison A. Smyth, H. J. Haynsworth and J. Edger Smyth. A tract of land comprising 225 acres has been purchased by the Dunean Cotton Mills Co. as a site for the new mill.

Rock Hill, S. C.—The waste house of Highland Park Mill was totally destroyed by fire on Monday morning. Loss is estimated at $1,000.

Trion, Ga.—A small fire occurred recently in the opening room of the Trion Mfg. Co., but the damage was slight.

Gaffney, S. C.—Two shares of the Gaffney Mfg. Stock were sold at auction last week for the purpose of settling an estate and brought $66 per share.

Greensboro, N. C.—The Pomona Mills have placed an order with Fred White of Charlotte, N. C., for 400 warp stop motions to be manufactured by the Stafford Co. of Readsville, Mass.

Humboldt, Tenn. — The Humboldt Cotton Mills, it is reported, will install additional machinery. The company now has, it is said, 8,260 ring spindles, 184 narrow looms for manufacturing sheeting and bag cloth.

Edgefield, S. C. — The Beaver Dam Cotton Mills suffered a loss of about $800 recently by a fire which started in the ginnery of the oil mill of the plant. A much more serious loss would have resulted had it not been that the plant has its own waterworks. The origin of the fire is unknown.

Gastonia, N. C.—At a meeting of the directors of the Flint Mill of Gastonia, N. C., on last Friday it was decided to make an addition of 25,000 spindles to the equipment.

High Point, N. C.—Contracts for the machinery and equipment of the Pickett Cotton Mills are being placed this week. The Pickett Cotton Mill Company was incorporated last year and the building has been completed.

Shelby, N. C.—The Buffalo Cotton Mill, a 3,500-spindle plant, was sold under the hammer here by J. C. Smith, trustee in bankruptcy, to Ambrose line. The upset price was $20,000 which will probably be raised within 20 days. The property embraces 400 acres of land, fine water power, and 20 tenement houses.

Greenville, S. C.—A fresh coat of paint is being put on the tenement houses of the American Spinning Co., which is greatly improving the appearance of the mill village.

Rossville, Ga. — The Peerless Woolen Mills, which purchased quite an extensive stock of machinery and fixtures from the Knoxville Woolen Mills, Knoxville, Tenn., will install the same, thus increasing the output of the plant materially.

New Orleans, La. — The Lane Mills, New Orleans, La., are to erect a brick addition which will cost about $4,500.

Durham, N. C. — Contract for electric motors for the Erwin Mill No. 1 and the Pearl Cotton Mills were placed last Saturday with the Westinghouse Electric Co. Both of these mills will be connected with the Southern Power Co. system.

Fitzgerald, Ga.—The Fitzgerald Cotton Mills made their first shipment of cloth last week, consisting of 5,000 yards of heavy duck and was consigned to the Great Fall Bleaching and Dye Works, Somerworth, N. H. The Fitzgerald Mills now run 120 looms, making all classes of duck, sheeting and drills. They use the Stafford loom and the company feels very proud of the increased growth of these mills.

Prevents Worry and Fear

AT THE LAST MOMENT it was necessary to postpone the visit to relatives in a distant city. Anything short of a full explanation would cause worry and fear. What could be done?

The Long Distance Bell Telephone solved the problem. A personal talk cleared up the situation, dispelled worry and completed plans for a visit at a later date.

In every day, personal affairs the Long Distance Bell Telephone can save you worry, inconvenience and loss of time. Why not try it?

By the way, have you a Bell Telephone?

SOUTHERN BELL TELEPHONE
AND TELEGRAPH COMPANY

Gaffney, S. C.—A very destructive fire visited the Gaffney Manufacturing Co. on April 12th when some 55 bales of cotton were burned. The fire started in the opening room of the mill, a room where all of the cotton is opened. Owing to the fact that the cotton was open and scattered on the floor, it gave the fire an opportunity to spread and before it could be extinguished the above-mentioned number of bales had been almost completely destroyed. The mill authorities are at a loss to explain how or where the fire originated. The total loss was over $3,000, fully covered by insurance.

Birmingham, Ala.—Siluria Cotton Mills Company has reorganized and will in the future be known as the "Buck Creek Cotton Mills Company;" capital stock has been increased from $250,000 to $600,000; improvements will be made at the plant; T. C. Thompson, Birmingham, is president of the company.

Greenville, S. C.—The American Spinning Co. are changing from steam to electric drive.

Easley, S. C.—The Secretary of State has given the Alice Mills permission to increase their capital from $350,000 to $500,000.

Danville, Va. — The Dan River and Riverside Mills have placed an order with the General Electric Co. for the following machinery: 200 kw. 600 volt three-phase generator; one 350 kw. 600 volt three-phase generator; two 20 kw. 125 volt exciters, three 40 kw. transformers; 16 induction motors of 10 to 100 horsepower capacity, and a 600 volt switchboard.

Alta Vista, Va.—At a meeting of the stockholders of the Alta Vista Cotton Mills, held last week, C. E. Hutchison of Mount Holly, N. C., was elected president to succeed the late A. C. Hutchison. It was decided to complete the mill as early as possible. It will have 12,000 spindles and 400 looms on fine lawns.

Birmingham, Ala. — The board of commissioners has reduced the license tax on the mill property of the Avondale Mills from $500 per annum to $150.

Personal Items

I. B. Covington of Mt. Holly paid us a visit last week.

Fred E. Craig has become loomfixer at the Erwin Mills, West Durham, N. C.

Ed. Holbrook of the Cabarrus Mill, of Concord, N. C., was married last week to Miss Bertha Thompson.

W. P. Leister, who recently resigned as overseer of spinning at Cliffside, N. C., to become superintendent of the Shelby, N. C., Cotton Mill, moved his family last week.

Jasper Gassaway is now fixing looms at Lindale, Ga.

Z. O. Jenkins, manager of the mercantile department of the Cliffside, N. C., Mills, is in the Northern markets this week.

E. C. Greer, superintendent at Batesville, S. C., has been visiting at Greer, S. C.

George Witherspoon, of Huntsville, Ala., has become overseer of weaving at the Avon Mills, of Gastonia, N. C.

P. M. Keller has returned to Kings Mountain, N. C., and will be carder and spinner at the Dilling Cotton Mills.

H. B. Hughes, of Clifton Mill No. 1, has been on a visit to Cliffside, N. C.

J. O. Barton has resigned as loomfixer at Egan, Ga.

B. O. Clark has been appointed special police at the White Oak Mill, of Greensboro, N. C.

J. B. Lemmons, of Belmont, N. C., is now running warpers at the Wiscassett Mills, of Albemarle, N. C.

Rube Monroe, master mechanic of the Lumberton (N. C.) Cotton Mills, will return at an early date from a vacation at Hot Springs, Ark.

L. J. Waldrop has resigned as loomfixer at the Loray Mills, Gastonia, N. C.

Chas. A. Davis has resigned as overseer of carding at the Manetta Mills, of Lando, S. C.

A. C. Sadler has been promoted from section hand in mill No. 1 of the Dan River Mills, Danville, Va.

Jas. A. Greer has resigned as assistant superintendent of the Avondale Mills, Birmingham, Ala., and has become superintendent of the Buck Creek Cotton Mills (formerly Siluria Cotton Mills), Siluria, Ala.

Claude Tindale has been promoted from loomfixer to second hand in weaving at the Monaghan Mills, Greenville, S. C.

Ernest Wilson, of Jacksonville, Ala., has accepted a position with the Coosa Manufacturing Company, at Piedmont, Ala.

A. O. Pendleton, of Pelzer, has become second hand in spinning at the Woodside Mill, Greenville, S. C.

J. W. Cannon and E. C. Barnhardt, of Concord, N. C., will return this week from a pleasure trip to the Bermuda Islands.

T. D. Rudisill has resigned his position at Cliffside, N. C., and moved to Rutherfordton, N. C.

W. A. Erwin, of Durham, N. C., was visiting Erwin Mill No. 2 at Cooleemee, N. C., last week.

W. T. Bell, of Alabama, a recent graduate of the Lowell Textile school, is working through the mill at the Monaghan Mills, Greenville, S. C.

J. R. Duffie, of the Olympia Mills, Columbia, is now fixing looms at the Dan River Mills, Danville, Va.

A. Q. Kale, superintendent of the High Shoals, N. C., Mfg. Co., has been visiting at Charlotte, N. C.

W. C. Ruffin, secretary and treasurer of the Mayo and Avalon Mills at Mayodan, N. C., is in New York this week.

Walter Pope, of Danville, Va., is now fixing looms at Cooleemee, N. C.

Arthur Robinson has resigned his position at Belmont, N. C., and accepted one with the Drayton Mills, Spartanbur, S. C.

W. M. Moore, of Gastonia, N. C., has accepted the position of night overseer of weaving at the Glove Mfg. Co., Gaffney, S. C.

R. J. Brown has accepted the position of superintendent of the Koskiusko Cotton Mills at Kosciusko, Miss.

J. Adger Smyth, president of Watts Mill, Laurens, S. C., has moved to Greenville, S. C., where he will be president of the Dunean Mills.

R. A. Whatley, of Jackson, Ga., has returned to his former position of overseer of weaving in Mill No. 1 of the Fulton Bag and Cotton Mills, Atlanta, Ga.

A. M. Harvell, of Brookford, N. C., has taken charge of night carding at the Monarch Mills, Dallas, N. C.

J. M. Hodges, superintendent of Cedar Falls, N. C., Mfg. Co., was married June 14th to Miss Annie Morris, of Linden, N. C.

Did Not Fool Supt. Bacon

The Lumberton, N. C. *Robesonian* tells how J. D. Bacon, superintendent of the new Jenning Mill, outwitted a tramp. Stuffed with cotton, besmeared with paint, and telling of a distressing train wreck in which he was terribly mangled, he begged of Mr. Bacon $1.20 with which to secure a doctor. Sympathetic at first, but noting the tramp's deceptive make-up, Mr. Bacon asked the hobo to come to his office and he would phone for a doctor. This worked an immediate cure, and the tramp rapidly disappeared.

An Inflated Operative

A man by the name of McCormick, who is an employee of Steele's Mill at Cordova, N. C., is suffering from one of the strangest things ever known to happen, and it is very doubtful that he will ever recover.

In all up-to-date cotton mills, machinery is cleaned off by a "blow pipe" which is worked exactly like a hose that is used to throw water. The "blow pipe" pumps air instead of water. A long hose is fastened to an operating dynamo and at the other end the air rushes with tremendous force through a small metal pipe. The pipe is held by an operator, who moves it around and over the machinery, which is thoroughly cleaned by the powerful current of air.

Several days ago the "blow pipe" operator at Steele's Mill was cleaning up the machinery and never thinking of the serious consequences, he in a spirit of mischief turned the pipe to the seat of McCormick's overalls—and turned on the full current of air. Just in a second or two the air forced itself up the victim's body, entered his bowels, and as an eye witness stated "blew him up like a frog."

A doctor was immediately summoned, who rendered what relief he could, which wasn't much. Mr. McCormick went to the Fayetteville hospital, but could get little help, for his bowels are paralyzed, and little hope is entertained for his recovery. He is now back at his home in Cordova. He is probably 50 years of age and has a family.

The Kiss of Death

IN a recent issue of *Cotton Chats,* the Draper Co. presents a strong appeal against the habit of "shuttle kissing," and introduces the subject with statistics showing the enormous annual loss to the country due to the large death rate from consumption.

"Certain trades or vocations have always been specially unfortunate in providing victims of consumption. Among such vocations, that of the weaver carries unusual risk in the process of threading the shuttles. In this process the mouth is applied to the eye of the shuttle and the filling is sucked through; generally it stops in the mouth, but it sometimes goes farther. The same shuttle is frequently threaded by different persons, affording ample opportunity to transfer germs of all kinds from one mouth to another. In a cotton mill on plain goods and medium numbers, a weaver threads the shuttle of one loom about 100 times per day. An eight-loom weaver would therefore perform the operation 800 times per day; in a year of 300 days this would be 240,000 times, or, in round numbers, over 200,000 chances per annum of inhaling germs of consumption.

"It is a well known fact that the Northrop loom provided with self-threading shuttles absolutely removes the "shuttle kissing" danger from the weaver's vocation. This means that thousands of weavers are enjoying better health and that a very considerable number have had their lives prolonged by our improvements."

Caesar Cone's New Home

Preparatory to the erection of a magnificent colonial home a force of men will begin Monday the work of tearing down and removing the present residence of Caesar Cone located in the center of spacious and lovely grounds on Summitt Avenue and overlooking the great Cone Mills at Proximity and White Oak.

The new home is to be of pressed face brick exterior and white enamel interior finish. It will be built by Mr. Cone's personal corps of carpenters under the direction of D. M. Sullivan and A. B. High.

Just across the street and also commanding a magnificent view, the same forces are just now putting the finishing touches to the handsome $20,000 home of Bernard M. Cone. Plans for other handsome residences on the avenue and in the vicinity of the Cone property are said to be now in contemplation which when the plans are realized will add greatly to the prestige of the locality as one of the most beautiful residential sections of the city—*Greensboro News.*

National Assn. Of Cotton Mfrs.

The 90th meeting of the National Association of Cotton Manufacturers will be held at the Massachusetts Institute of Technology, Boston, Mass., April 12 and 13.

President Maclaurin of the Massachusetts Institute of Technology will speak at the opening session, and during the meeting papers are expected on the following subjects:

"Renaissance of the Waterfall."

"Sandwich Island Cotton."

"Doffing Machines and Their Relation to Child Labor."

"Gas Producers and Gas Engines for Textile Mills."

and also reports on standard specifications and other subjects by special committees.

Doffing Machine

We learn with considerable interest that the Woonsocket Machine & Press Co. of Woonsocket, R. I., has closed a deal with the Hill-Boozer Doffing Machine Co. of Spartanburg, S. C., and will manufacture and market the machine.

This machine was invented at Tucapau, S. C., and the inventors have spent several years of hard work in perfecting the details and it is now believed that the machine will stand all tests and can be considered as a commercial possibility.

A Revolving Loom

(Continued from Page 4)

is all that is necessary.

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The Kiss of Death

IN a recent issue of *Cotton Chats*, the Draper Co. presents a strong appeal against the habit of "shuttle kissing," and introduces the subject with statistics showing the enormous annual loss to the country due to the large death rate from consumption.

"Certain trades or vocations have always been specially unfortunate in providing victims of consumption. Among such vocations, that of the weaver carries unusual risk in the process of threading the shuttles. In this process the mouth is applied to the eye of the shuttle and the filling is sucked through; generally it stops in the mouth, but it sometimes goes farther. The same shuttle is frequently threaded by different persons, affording ample opportunity to transfer germs of all kinds from one mouth to another. In a cotton mill on plain goods and medium numbers, a weaver threads the shuttle of one loom about 100 times per day. An eight-loom weaver would therefore perform the operation 800 times per day; in a year of 300 days this would be 240,000 times, or, in round numbers, over 200,000 chances per annum of inhaling germs of consumption.

"It is a well known fact that the Northrop loom provided with self-threading shuttles absolutely removes the "shuttle kissing" danger from the weaver's vocation. This means that thousands of weavers are enjoying better health and that a very considerable number have had their lives prolonged by our improvements."

Caesar Cone's New Home

Preparatory to the erection of a magnificent colonial home a force of men will begin Monday the work of tearing down and removing the present residence of Caesar Cone located in the center of spacious and lovely grounds on Summitt Avenue and overlooking the great Cone Mills at Proximity and White Oak.

The new home is to be of pressed face brick exterior and white enamel interior finish. It will be built by Mr. Cone's personal corps of carpenters under the direction of D. M. Sullivan and A. B. High.

Just across the street and also commanding a magnificent view, the same forces are just now putting the finishing touches to the handsome $20,000 home of Bernard M. Cone. Plans for other handsome residences on the avenue and in the vicinity of the Cone property are said to be now in contemplation which when the plans are realized will add greatly to the prestige of the locality as one of the most beautiful residential sections of the city—*Greensboro News*.

National Assn. Of Cotton Mfrs.

The 90th meeting of the National Association of Cotton Manufacturers will be held at the Massachusetts Institute of Technology, Boston, Mass., April 12 and 13.

President Maclaurin of the Massachusetts Institute of Technology will speak at the opening session, and during the meeting papers are expected on the following subjects:

"Renaissance of the Waterfall."

"Sandwich Island Cotton."

"Doffing Machines and Their Relation to Child Labor."

"Gas Producers and Gas Engines for Textile Mills."

and also reports on standard specifications and other subjects by special committees.

Doffing Machine

We learn with considerable interest that the Woonsocket Machine & Press Co. of Woonsocket, R. I., has closed a deal with the Hill-Boozer Doffing Machine Co. of Spartanburg, S. C., and will manufacture and market the machine.

This machine was invented at Tucapau, S. C., and the inventors have spent several years of hard work in perfecting the details and it is now believed that the machine will stand all tests and can be considered as a commercial possibility.

A Revolving Loom

(Continued from Page 4)

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CLASSIFIED LIST OF ADVERTISERS

AUTOMATIC SCALES—
- American Kron Scale Co.

BALING PRESSES—
- Boomer and Boschert Press Co.
- Saco-Lowell Shops.

BANDING—
- American Textile Banding Co., Inc.
- Barber Mfg. Co.

BEAMERS—
- T. C. Entwistle Co.
- Saco-Lowell Shops

BELTING—
- American Supply Co.
- Bradford Belting Co.
- Charlotte Leather Belting Co.
- Cotton States Belting & Supply Co.
- Link-Belt Company.
- Morse Chain Company

BOBBINS AND SPOOLS—
- American Supply Co.
- Draper Corporation

BOILER HOUSE CONVEYORS—
- Link-Belt Company

BRUSHES—
- D. D. Felton Brush Co.

CARD CLOTHING—
- Ashworth Bros.
- Jos. Sykes Bros.
- Saco-Lowell Shops

CARDS—
- Saco-Lowell Shops

CARD GRINDERS—
- T. C. Entwistle Co.

CHAIN DRIVES, SILENT—
- Link-Belt Company.
- Morse Chain Co.

CLOTH ROOM MACHINERY—
- Saco-Lowell Shops.

COAL AND ASHES CARRIERS—
- Link-Belt Company

COMPRESSORS (AIR)
- General Electric Company

COTTON MERCHANTS—
- J. K. Livingston & Co.

DISINFECTANTS—
- Masury Young Co.

DOBBIES—
- Crompton & Knowles Loom Works
- The Stafford Company

DOFFING BOXES—
- Fibre Specialty Mfg. Co.
- Leatheroid Mfg. Co.

DOUBLERS—
- Universal Winding Co.
- Saco-Lowell Shops.

DRAWING FRAMES—
- Saco-Lowell Shops

DRAWING ROLLS—
- Metallic Drawing Roll Company

DRINKING FOUNTAINS—
- Puro Sanitary Drinking Fountain Co.

DRIVES, SILENT CHAIN—
- Morse Chain Co.
- Link-Belt Company.

DUSTLESS CARD STRIPPERS—
- William Firth.

DYESTUFFS AND CHEMICALS—
- American Aniline Products Co.
- Arabol Mfg. Co.
- Bosson & Lane.
- Dicks, David & Broadfoot
- A. Klipstein & Co.
- Marden, Orth & Hastings Co.
- H .A. Metz
- National Aniline and Chemical Co.
- New Brunswick Chemical Co.
- Parsons-Barr Co.
- A. E. Ratner Co., Inc.
- Southern Dyestuffs and Chemical Co.

DYEING, DRYING, BLEACHING AND FINISHING MACHINERY—
- Philadelphia Textile Machinery Co.
- Saco-Lowell Shops
- C. G. Sargents Sons Corp.

ELECTRICAL MACHINERY—
- General Electric Co.
- Huntington & Guerry.
- Westinghouse Electric & Mfg. Co.

ELEVATORS AND CONVEYORS—
- Link-Belt Company

FIRE HOSE AND FITTINGS—
- American Supply Co.

FLOORING—
- W. M. Lloyd Co.

FLYER PRESSERS—
- Southern Spindle & Flyer Co.

GEARS (SILENT)—
- General Electric Company

GENERATORS—
- General Electric Co.
- Westinghouse Electric & Mfg. Co.

GRID BARS—
- Atherton Pin Grid Bar Co.
- Brown-St. Onge Co.

HEDDLES—
- Steel Heddle Mfg. Co.

HUMIDIFIERS—
- American Moistening Co.
- Carrier Engineering Corporation.
- Stuart W. Cramer
- Normalair Co.

HUMIDIFYING MACHINES—
- C. G. Sargents Sons Corp.

LANDSCAPE ARCHITECT—
- E. S. Draper.

LINESHAFT BOXES—
- Cotton States Belting & Supply Co.

LOOMS—
- Crompton & Knowles Loom Works
- Draper Corporation
- Saco-Lowell Shops
- Stafford Company

LOOM HARNESS, REEDS, PICKERS—
- Emmons Loom Harness Co.
- Garland Mfg. Co.
- Steel Heddle Mfg. Co.

LOOM LUBRIK—
- Masury Young Co.

LUBRICANTS
- Albany Lubricating Co.
- Masury Young Co.
- N. Y. and N. J. Lubricant Co.
- Swan & Finch Co.

LUMBER—
- W. M. Lloyd Co.

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- Southern Spindle & Flyer Co.

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- Link-Belt Company.
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- Saco-Lowell Shops

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- Boomer and Boschert Press Co.

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- Cotton States Belting & Supply Co.

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- Saco-Lowell Shops

RING TRAVELERS—
- American Supply Co.

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ROVING CANS AND BOXES—
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- Saco-Lowell Shops

SADDLES—
- Dixon Lubricating Saddle Co.

SCALES—
- American Kron Scale Co.

SEPARATORS—
- Draper Corporation.

SHUTTLES—
- Draper Corporation
- Shambow Shuttle Co.

SILENT CHAIN DRIVE—
- Link-Belt Company
- Morse Chain Company

SIZING COMPOUNDS
- Arabol Mfg. Co.
- Bosson & Lane
- John P. Marston
- A. Klipstein & Co.
- New Brunswick Chemical Co.
- Seydel Mfg. Co.
- Southern Dyestuff & Chemical Co.

SOFTENERS—COTTON—
- Arabol Mfg. Co.
- Bosson & Lane
- New Brunswick Chemical Co.

SOAPS—
- Seydel Mfg. Co.
- New Brunswick Chemical Co.
- A. Klipstein & Co.
- Southern Dyestuff & Chemical Co.

SPINDLES—
- .Draper Corporation.
- Southern Spindle & Flyer Co.

SPINNING RINGS—
- Draper Corporation
- Whitinsville Spinning Ring Co.

SPINDLE TAPE AND BANDING—
- American Textile Banding Co.
- Barber Mfg. Co.

SPOOLERS—
- Draper Corporation
- Saco-Lowell Shops

STARCH—
- Corn Products Refining Co.
- Keever Starch Co.

STEEL SHAFT HANGERS—
- Cotton States Belting & Supply Co.

TEMPLES—
- Draper Corporation

TEXTILE MACHINERY SPECIALTIES—
- Cocker Machine and Foundry Co.

TOP ROLL VARNISH
- Top Roll Varnish Co.

TIME CLOCKS—
- International Time Recording Co.

TIME RECORDING DEVICES—
- International Time Recording Co.

TURBINES—
- General Electric Company
- Westinghouse Electric & Mfg. Co.

TWISTERS—
- Collins Bros.
- Draper Corporation
- Saco-Lowell Shops.

WARPERS—
- Cocker Machine and Foundry Company
- Draper Corporation
- T. C. Entwistle Co.

WARP STOP MOTIONS—
- Crompton & Knowles Loom Works
- Draper Corporation
- The Stafford Co.

WATER INTAKE SCREENS—
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WELDING OUTFITS—
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WASHBURN PRESS
(RAY PRINTING COMPANY, Inc.)

COMMERCIAL, HALF-TONE and COLOR PRINTING COTTON MILL WORK OUR SPECIALTY

BLANK BOOKS AND SPECIAL RULED BLANKS MADE TO ORDER

22 W. Trade St. CHARLOTTE, N. C. Telephone 342

"THE PROBLEM OF LOCATION"
"YOUR PROBLEM."

In selecting a location for your plant you should keep in mind that proximity to raw material, proximity to markets, transportation facilities, low cost of power, abundance of labor, efficiency of labor and economical living conditions for that labor are the sine qua non of success.

The Seaboard Air Line Railway Company will place at your disposal, without cost, a man who will personally help solve your problem and call to your attention the most advantageous locations.

SEABOARD AIR LINE RAILWAY
"The Progressive Railway of the South"
Norfolk, Virginia

For further particulars address:
B. L. HAMNER
General Development Agent
Norfolk, Va.

PROPER LOCATIONS FOR MILLS

United States Census figures show that since 1880 the consumption of cotton in mills of the cotton growing States has increased 1,502 per cent, as compared with an increase of only 93 per cent in all other states. In the twelve months ended August 31, 1916 Southern mills consumed 675.731 more bales of cotton than the mills of all other States. Three-fourths, or 9,000,000, of the total cotton spindles in all the cotton growing States are tributary to Southern Railway tracks. Of the 200 knitting mills in the South over 125 are located along the Southern Railway. All the Southern woolen and silk mills are also on Southern Railway tracks.

There is a reason for this, and it is not difficut to understand.

The Southern Railway Lines enter and serve most completely these portions of the South where the textile industry is the greatest success, because there are found all the conditions which makes for successful manufacture—the proper transportation facilities, the ease with which the raw material and the needed fuel may be secured, the supply of good labor, the pure water, the low cost of power, and favorable local conditions.

Not only for textile plants but for all other industries the best advantages will be found in this territory.

If you have a plant to locate, let us take up with you the question of the proper location. Your plans will be held confidential. Our knowledge of conditions at various points and our experience in locating other mills and the time of our agents in making special investigations are at your service if desired.

SR

M. V. RICHARDS, Commisioner,
Southern Railway System, Room 129, Washington, D. C.

1877 David Clark 1955

IF David Clark was ever uncertain about anything, it was his inability to decide whether, as a journalist, he was primarily expected to *report* the news or to *make* it. Certainly his fame lies with the latter. And if, in retrospect, his chief role in life is to be assigned, it was that of a fiery, resolute standard bearer for the Southern textile industry.

David Clark was born at Raleigh, N. C., May 15, 1877. His father was Chief Justice Walter Clark of the North Carolina Supreme Court, who was justice for 34 years. His mother was a daughter of William A. Graham, who was governor of North Carolina for two terms, U. S. Senator, Confederate States Senator, Secretary of the Navy, and Whig Party nominee for Vice-president of the U. S.

At 18, David Clark graduated from North Carolina State College, Raleigh, in 1895 with a bachelor of engineering degree. For two years following receipt of his first degree, he taught mechanical drawing and took post-graduate work, acquiring the degrees of mechanical engineering and civil engineering in 1897. He played on the State College football and baseball teams for three years.

In the Fall of 1897, he entered the senior class of Cornell University at Ithaca, N. Y., and played end on the Cornell football team that season. He left Cornell in April of 1898 for service in the Spanish-American War, but was awarded his mechanical engineering degree in absentia by Cornell in June of that year. At the age of 21 he had received four college degrees, to which in later years was added the honorary degree of doctor of textile engineering by North Carolina State College.

He began his service in the Spanish-American War with the rank of adjutant, later becoming captain of Company M, Second North Carolina Voluntary Infantry. It was shortly after his discharge from active service that he entered the cotton textile industry. His first job was with the old Ada Cotton Mill in Charlotte, N. C., where he was a sweeper at 50 cents a day. He then served as mill engineer for the firm of D. A. Tompkins Co. of Charlotte for about a year prior to purchasing a small cotton mill. This plant was liquidated during the "Panic of 1907," and David Clark turned to journalism as a career, becoming editor of *Textile Manufacturer*, published in Charlotte by the late W. C. Dowd, founder of the *Charlotte News*.

In December of 1910 he severed his connection with the *Textile Manufacturer* and seriously considered leaving the textile journalism field to return to engineering. In later years he recalled how he stood on a Charlotte street corner on a snowy Christmas Eve of 1910 pondering his future. In one pocket he had his accumulated savings, while in another was a lucrative offer for an engineering position in Brazil. By chance that evening he ran into two old friends, both suppliers to the textile industry. He told them of his uncertainty and both encouraged him to start his own journal. Their sincerity convinced him, and a month later, in January 1911, the SOUTHERN TEXTILE BULLETIN, in specimen form, was printed.

With this specimen issue, David Clark solicited advertising, traveling throughout New England contacting machinery men. The response that greeted him encouraged him all the more, and the initial issue of the SOUTHERN TEXTILE BULLETIN came off the presses March 2, 1911.

For the support given him during this period and later, David Clark was forever grateful. Thirty years later, in an editorial marking the anniversary of the journal, he remarked: "Many of those who gave us the greatest support, when support meant much to us, have long since passed over the hill, but we still cherish memories of the things they did for us."

This support continued through the years and Clark Publishing Co., in 1937, launched its second publication—THE KNITTER—for the knitgoods trade. Then in following years came SOUTHERN HOSPITALS, MUNICIPAL SOUTH and SOUTHERN OPTOMETRIST, published by the Clark-Smith Publishing Co. David Clark served both companies, as well as Washburn Printing Co., a commercial printing house, as president until a severe heart attack slowed him in 1951. At that time he was elevated to board chairmanship, a position he held until his death. Until the last he was as active as his doctors would permit him to be, and, as was typical of him, a little more. His last project was the publication of a booklet on North Carolina's Blue Ridge Parkway, compiled and edited by him.

From the birth of the SOUTHERN TEXTILE BULLETIN until his death, David Clark distinguished himself in many and varied activities. He was known for many things, but certainly one of his chief characteristics was his sincere aggressiveness in support of various activities with which he chose to identify himself. Foremost among his interests was Rotary International. He was the first new member admitted after the organization of the Charlotte Rotary Club, and was its second president in 1917-18. In 1927 he was elected governor of the 58th Rotary District, then composed of South Carolina and the western part of North Carolina. During his term as district governor, he organized 15 new Rotary Clubs in the district. Since that time he had been instrumental in organizing 15 others. As a result of his activities in founding clubs, he was made vice-chairman of Rotary International's extension committee, and in 1929 was elected a member of Rotary International's board of directors.

College athletics, particularly at North Carolina State College, was another interest to which he devoted much time and enthusiasm. As an unofficial recruiter, he delighted in seeking out promising material for State College football and basketball teams, often making trips which taxed heavily his declining health while at the same time affording him a satisfaction he seemingly could find nowhere else. A member of the board of trustees of the Greater University of North Carolina, which encompasses State College, and a past member of the State College Athletic Council, he took pride in being referred to as the school's number one alumnus. As such he was instrumental in the formation during the '40s of the North Carolina Textile Foundation, from which State College has benefited handsomely.

As varied as his interests were—civic affairs, college athletics, religion, education, politics, etc.—his most devoted service was to the textile industry. His interest in its people inspired him to take leadership in organizing the Southern Textile Association in 1908. He served as treasurer for the association from 1908 to 1913, and actively supported its activities throughout his lifetime. It was a source of great pleasure to him, he said, to see young men in the industry make their way to the top through active participation in such groups. He also played a major role in establishing the Southern Textile Exposition in Greenville, S. C., first held in December 1917.

His death on the morning of November 15, 1955, signified the end of a colorful, sometimes controversial but always purposeful career. It was also the end of an era for the textile industry, a period which witnessed, among other things, the transition of the major portion of the industry from the North to the South; the hard days of the Depression; the problems of child labor; the fight against low-wage imports; the growth of the synthetic fibers; the many advances in technology; the impact of wars and the ensuing periods of readjustment.

David Clark knew the textile industry well. He took pride in its accomplishments, fretted over its weaknesses. But, perhaps most significantly of all, he never lost faith in it.

"No one who ever knew David Clark ever doubted his sincerity, but very few of even his closest friends understood his motives. He was not interested in personal credit for what he did; he was merely interested in seeing the job done. He was impatient with life because it wasn't as simple as he thought it ought to be."

A Lighter Look At "Uncle Dave"

By Dean Malcolm E. Campbell*
School of Textiles
N. C. State College

Boll Weevils For The Ukraine

THE first time I met "Uncle Dave" Clark was one day toward the end of the 30's, when, for reasons that I have forgotten, I dropped in to visit him. It was during the Russian-Finnish war, when nearly everybody in this country was pro-Finnish. Uncle Dave, of course, was violently anti-Russian and as soon as he found out that I was a "cotton man" from the U.S.D.A., he lit into me with head down and cleats in the turf. It seems that he had written the Department, giving them a very practical idea, but they had not only not adopted it, they had ignored him.

The idea was both practical and simple—adjectives, in combination or singly, I later realized applied to all of his ideas. In effect, it was this: The Russians were growing cotton in the Ukraine, he said, and they had never experienced the scourge of the boll weevil. All we had to do, he explained, was to get two bushel-baskets of boll weevils, fly over the Ukraine cotton fields and toss them out in the manner of a farmer sewing seed. The Russians didn't know how to deal with the insects, so that would be the end of their cotton crop.

I promised Mr. Clark that I would carry the scheme back to Washington personally. Another time, some years later, he conceived the idea of flying around the Caribbean, tossing A-bombs into every incipient hurricane that cropped up, blowing them literally to hell. Only this last year, there was some discussion of this idea in the papers.

There's Money In Chinchillas

Mr. Clark was an "idea" man. Schemes of all sorts flowed from his fertile brain like water from a spring. Some were excellent, some were utterly fantastic. All were, in his mind, extremely practical. The trouble was that it was almost a full-time job to separate the good ones from the bad.

One day he came into my office with a sly but very faint smile on his face. I knew he had another constructive idea. This time it was to raise money for the Wolfpack Club, organized to raise scholarship money for athletes at N. C. State. He settled himself in a big chair, and with a very wise look asked me, "Sandy, did you ever hear about chinchillas?" I said all I knew was that they were very small rodents, used for fur coats, and that they were very expensive. "They tell me chinchillas are worth $1,500 a pair," he said. "I proprose to get two or three pair, bring them to Raleigh and turn them over to the College. Folks in Agriculture could study the best ways of feeding them, and you in Textiles could study the fur. You put a pair together," he said, waving his hands a trifle violently, "and you raise a lot of young ones. Sell them, and give the money to the Wolfpack Club!" Obviously, he had visions of several Charlie Justices on the football team at State within a very few months. I tried, unsuccessfully, to keep from laughing, and Uncle Dave got somewhat embarrassed. He quickly changed the subject, and in a minute had picked up his hat and left.

Soft-Hearted, Sympathetic

Very few people ever knew how soft-hearted and sympathetic Mr. Clark really was. Our textile research director, whom we had imported from England along with his rather large family, was incurably stricken less than two years after he arrived in the United States. I had to tell his wife that we could take care of him for just a few months, and when her husband heard the news he was extremely upset. She told me he hadn't slept for three nights after hearing the news. That night Uncle Dave, who was in Raleigh, asked me to "take" dinner with him at the hotel to discuss the research man's condition. We had ordered our dinner, and while waiting for it to be served I explained the situation to him. As soon as I had finished giving him the facts, Uncle Dave said, "I will personally guarantee that our Foundation will pay him his full salary for another year, and after that, two-thirds salary for life." I thanked him most sincerely, and said that after dinner I would telephone the news to the man's wife. Uncle Dave had tears in his eyes, and although dinner was already on the table he said, "Go to the phone and tell her now."

Pneumonia For The Foundation

One afternoon, the Chancellor asked me if I could leave the following night for Gainesville, Fla., to interview a candidate for Dean of Engineering at State. I told him that I could. A few minutes later, Uncle Dave called me from Charlotte and said he understood I was going to the Unversity of Florida. "I don't want anyone to know about this," he said, "but I want to go down and interview the man with you. Get me a round-trip from Hamlet to Gainesville on your train, and I'll pay for it later." Hamlet is a railway junction 100 miles from Raleigh and 80 miles from Charlotte.

Next morning, we had breakfast together on the train, completed our mission and got on the night train back to North Carolina. Mr. Clark told me good night, and said he'd see me some days later in Raleigh. It seems he was going to get off the train at Hamlet at four o'clock in the morning. I pointed out that there was no hotel in Hamlet, and asked whether he intended to drive back to Charlotte. "No," he said, "there's a cotton mill in Hamlet, and they ought to give us $7,500 for our Textile Foundation. I'll sit in my car near the manager's office and catch him when he comes to work." It was mid-Winter and cold. Mr. Clark sat in his car until 10 o'clock, when the manager drove up.

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*Reprinted from T.B., Dec. 1955.

He got his check for $7,500. He also got double pneumonia, and spent the next month in the hospital.

Hell Of A Big Elephant

They started to build the Coliseum at State College with the $100,000 that William Neal Reynolds donated. Uncle Dave said that wasn't near enough, and in one way or another he was instrumental in getting an additional two or three million dollars for the job. Naturally, he had quite a lot to say about the design of the building. One day, after he had inspected the practically-completed Coliseum, he came over to see G. H. Dunlap in the Textile Building.

"Floopy," he asked, "How tall is an elephant?" When Dunlap said he wasn't quite sure, Uncle Dave said, "Find out." Dunlap went to an encyclopedia, and reported that the biggest elephant that had ever been measured was in the neighborhood of 12 feet tall.

Next day, workmen were pulling down the brickwork over the west entrance. When the contractor asked what in hell they were doing, the foreman replied, "Some old fool says we got to raise the doorway to 14 foot, in order to get a hell of a big elephant through here." It seems that Uncle Dave had decided that they might as well invite Barnum & Bailey to put on their show in the Coliseum, and what good is a circus without elephants?

Always The War-Horse

When Uncle Dave was about 75, he and Mrs. Clark happened to be in Europe while I was over there, and we traveled to France, Belgium and Norway together. I rejoined them in England a couple of weeks later. Mr. Clark was a fine traveling companion, always interested in what he saw around him, and when he was tired he would sit back and recall many stories of his lifetime. Usually they referred to some fight he'd been it, and, of course, won. I suspected, after he had been in Europe for two months, that he was getting a bit impatient to get home and step into the nearest scrap. One night, the three of us were sitting in the Clarks' quarters in the Savoy Hotel in London, when Floopy Dunlap arrived from the U. S. on another mission. He sat down with us and began to tell the latest news of North Carolina and State College. Most of the news was fairly grim, as I recall, and concerned such things as the expulsion of three of our best football players, lack of progress on some of the new buildings, a decision to put the new College Union in the "wrong place," and so on. A far-away look came over Uncle Dave's face and suddenly he looked years older. "Aileen," he said to Mrs. Clark, "I've had enough. I want to get home. Let's don't go to Ireland. Let's don't go home on the boat. Let's fly!"

The old war-horse wanted to get back in the fray, and he did.

The Way To Do Research

Uncle Dave said that he had always been interested in textile research, and after I got to State he was impatient for me to get started on some. It turned out that his idea of research was to get a big microscope, bigger than anyone had ever built before, and put on top of it a slow-motion movie camera, slower than anyone had ever made. "Put that thing on top of a textile machine," he said, "and you'll see things that haven't ever been seen before. That's the way to do research."

The Rum Runner

Uncle Dave never touched alcohol in any form, but he had a full appreciation of its value on certain occasions. For instance, he always insisted that highballs be served before any Foundation luncheon or dinner. "Those textile men expect it," he explained. "Furthermore, it's a lot easier to get money from them when they're feeling good." In fact, he frequently brought liquor to those occasions himself. Once, before such a meeting in Charlotte, he had four bottles of whiskey in his car, and had the misfortune to collide with another auto at a street intersection. Three of the bottles fell on the floor and broke, completely saturating both the car and Mr. Clark. Realizing his predicament if the police should arrive, he was anxious to get away as quickly as possible. He told the driver of the other car that his name was David Clark, and gave him his card. At least, he thought he did, but by mistake he gave him the card of a business acquaintance from Boston. The other driver, thinking he was being tricked, reported the matter to the police. They arrived at the Clark residence just in time to see Uncle Dave, reeking with liquor, sopping up the whiskey with a rag and removing the broken glass. But he was so well-known in his home town, fortunately, that the police didn't question his story.

How Firm Thy Foundations

For half a century or more, there has existed in Raleigh an erudite and exclusive discussion group known as the Wautauga Club. People like Dr. Frank Graham, Mr. Josephus Daniels, and Dr. Clarence Poe have been members. Once I was invited to be a guest at a dinner of the Wautauga Club, at which the late Governor Melville Broughton was toastmaster. He sat at the head of the long table with Dr. Graham just around the bend on the left, and opposite him, David Clark. Now, Mr. Clark and Dr. Frank had a life-long feud, mostly a one-way affair, as Mr. Clark insisted that Dr. Graham was too much on the pinkish side, to put it mildly, to suit him. It is true that Dr. Frank had lent his name to the letterheads of several organizations that were later investigated, but most people agreed that he had joined them in simple ignorance of their purposes.

When Governor Broughton, who was something of a wit but very dignified, took over the affairs of the evening, he stood between the two old foes, and with a quiet smile said, "How appropriate! Frank Graham on the left, and as always, David Clark on the right!" He then moved over toward Mr. Clark and placing his hand on his shoulder, lauded him for the fine work he had performed in aiding in the development of several foundations at State College. He mentioned the Textile Foundation, the Engineering Foundation, the Agricultural Foundation, and so on down the list. Then, after a pause, he looked at Mr. Clark and said, with all his oratorical stops pulled out, "And when David Clark shall finally pass to his Great Reward, (many, many years from now, I trust), it will be my honor and privilege to stand at the side of his grave, and raise my head to Heaven above, singing, albeit in a quavering voice, 'David Clark, How Firm Thy Foundations'."

If you ever met her, you

Remember Aunt Becky

In this day and time traveling salesladies are few and far between. You may know as many as three or four. Thirty years ago you may have known one. And if you were in the mill, chances are that one was the grand little lady about whom this is written. For all who have asked about her through the years, here's a bit of yesterday.

"ONE day Mr. David Clark asked me if I would be willing to go on the road selling subscriptions to TEXTILE BULLETIN. I told him I'd be glad to do anything I could for the company."

That's how Aunt Becky (Mrs. Ethel Thomas) Dabbs describes the beginning of her career as subscription saleslady for the Bulletin, a post which carried her all over the South during the period from 1930 to 1943. During this time Aunt Becky was Textile Bulletin to thousands of our subscribers, many of whom were introduced to the magazine for the first time through her.

In addition to selling subscriptions in the mills, Aunt Becky gathered personal news items from the mills and the mill villages. The mill village section she authored appeared first under the name "Becky Ann" and later under the name "Aunt Becky." She also found time in the midst of her travels to author 15 books—all but one of them about the mill folk she came to know so well.

Now a frisky 90, Aunt Becky is full of reminiscences about her experiences as a traveling saleslady. One concerns the time she attended a closed union meeting in Gastonia, N. C., during the Fred Beal strike in 1929, when there were bitter feelings on both sides accompanied by violence and murder.

Mr. Clark asked me to write a story about the strike that was going on in Gastonia. I was so anxious to get on the inside of things that I decided to attend one of the union meetings. I found out when the union group was meeting and dressed properly to attend. My disguise consisted of an old floppy hat, a pair of dark glasses, an old rusty looking coat and muddy turned over shoes. I looked just like one of the women strikers, only worse.

I waited at the union hall and as the group came by I grabbed the arm of one of the women and marched right in with them.

Ole Brad Beard got up before the group to speak. He stuck his fingers in his suspenders and said, "There's a traitor in here!" I punched the woman sitting next to me and said, "Now who do you think has got in here that's got no business?"

"I don't know," she said, "but they sure Lord God better get out."

Well, I knew he was bluffing, or at least I thought he was so I stayed. Even so I was a little uneasy.

As it turned out Aunt Becky was not discovered and did get her story—in fact a book—about the strike. However, she did find that attending the meeting had its difficulties.

Well, sir, Brad Beard got up there and told those people the most awful things I ever heard. I felt like jumping up and slapping his face. He told them that the Bible wasn't anything but a fable. That there wasn't anything to it—that there wasn't any hereafter—that all they were going to get was what they got while here on earth so they better be getting everything they could while they could.

But we did feel so sorry for those strikers. They had to move out of the mill village into tents. On the weekends my husband and I would carry groceries to them—that also gave me a good opportunity to find out a lot about what was going on.

In one of her mill visits Aunt Becky ran across a mill manager so cantankerous that he had the whole mill running scared.

Well, I went in to see him for the first time. A little boy in the mill said, "Aunt Becky, if I was you I wouldn't go in there and see him. He's mean. He'll talk to you awful."

"I can talk awful, too," I said.

When I walked into his office, he was sitting there reading with his feet propped up on the desk. I called his name and he said, without looking up, "I don't want to buy nothin' and I don't want to see nobody."

"Now look here," I said, "you have a reputation of scaring everybody to death, but you don't scare me. You ain't nothin' but a man with a pair of britches on and I see them every day."

He broke out laughing and said, "You must be Becky Ann." He jumped up from his chair, took me by the arm and escorted me all over the mill. He introduced me to everyone and made them take the magazine. He almost stopped the mill. They had never seen anything like it.

Aunt Becky may have set some kind of record in

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her years of traveling. In 13 years on the road she never had car failure, was never stranded and had one flat tire—right next to a filling station. She did have a little trouble on one occasion, getting all the gas she wanted.

I was traveling through the mountains and stopped at a filling station for gas. I told the old fellow there to fill up the tank.

"I'll give you five gallons," he said.

"Why don't you just fill it up?" I asked.

"Nope," he replied, "I don't give nobody but five gallons."

So, I got five gallons of gas. I guess he just couldn't calculate any higher than that since he knew right offhand what five gallons cost.

The late Governor Comer of Avondale Mills in Sylacauga, Ala., always acted as Aunt Becky's guardian when she would visit his area. A chauffeured limousine was often at her disposal during her visits there.

Once when I first began to travel, I went to Birmingham and stopped at a hotel there. Governor Comer found out where I was staying, came and got me. "You're not going to stay here," he said, and took me to the newest hotel in the city.

During my stay he gave me a banquet and since I didn't carry an evening dress among my traveling clothes I had to rush out and buy one for the occasion.

Aunt Becky's journalistic career began with the sale of a Christmas story to the Wadesboro (N. C.) Messenger, then a weekly newspaper. At the time she was a weaver in Newberry, S. C.

I had writing so much on the brain that I could hardly get anything else done. One day my mother came to see me. I was writing a Christmas story and my two children were playing around the house. My mother thought I was neglecting the children. "You'll never make anything out of writing," she said. "You're wasting your time."

When she left I thought about what she had said and decided she was right. I gathered my pens, pencils and ink together and went out and threw them as far as I could into the cotton patch. But then I couldn't get the story off my mind.

Finally, I went out and gathered some poke berries and finished my story with poke berry juice. I sent it to the *Wadesboro Messenger* and received ten dollars for it, the first money I ever got for writing.

Later Aunt Becky joined the staff of the Wadesboro paper and from there the Mill News, a publication that is no longer in existence. For some six years, from 1919 to 1925, she edited The Shuttle, employee publication of Callaway Mills Co., LaGrange, Ga. The Cotton & Wool Reporter (now America's Textile Reporter) brought her to Charlotte in 1925 to manage its Southern office. In 1926 Aunt Becky left that publication to join the Bulletin.

At 90, Aunt Becky has made very few concessions to Father Time. "Why if I was a little younger and full of pep like I used to be and could see a little better, I could be on the road yet," she says with characteristic vigor. And as you hear her say it you find yourself thinking, "By George, if she were, I bet she could."

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Textile Finishing Units Have Come A Long Way

JUST HOW FAR IS REVIEWED IN THIS BRIEF SKETCH OF DEVELOPMENTS IN THAT FIELD OVER THE LAST 50 YEARS

By STANLEY BROOKS*

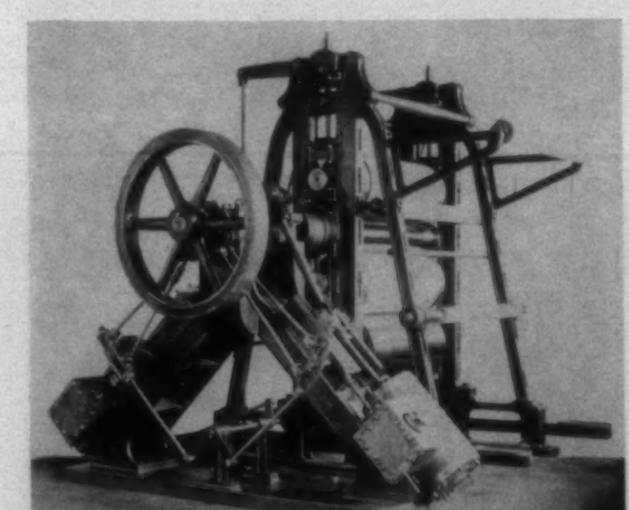
THE wet end of textile finishing was just coming of age when the first issues of TEXTILE BULLETIN began coming off the press in 1911. In the first decade of the century, the various bleaching, dyeing and finishing processes were performed on individual machines which required large amounts of floor space and hindered operating efficiency. Crude tenter ranges, known as "automatic chains," had just been introduced. For the most part, these tenters were powered by steam and operated at low speeds. Processing 40 yards of cloth per minute was considered an accomplishment.

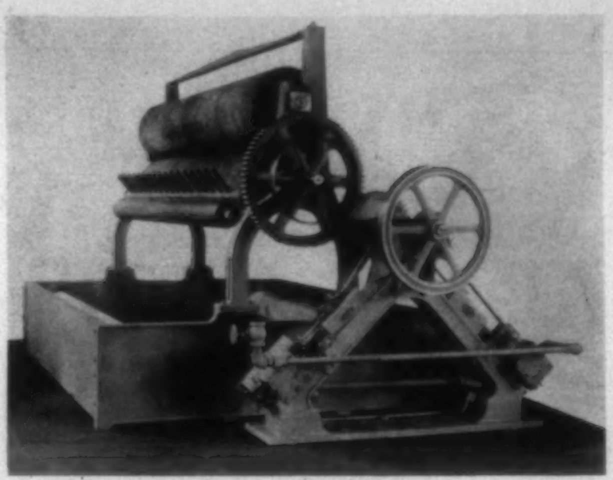
Many of the processing machines, such as the starch mangles, powder filling mangles and various dyeing machines, were equipped with maple rolls, although the use of rubber and bronze covered rolls was not uncommon by this time. In bleaching machines, maple rolls were used almost universally. They presented many problems. High pressures could not be used; they tended to absorb colors; and they quickly dried out and cracked.

The singeing operation was a matter of passing the unfinished fabric over a copper plate which was often heated by a coal fire.

Mercerizing had begun in 1898 with capacities of 150 pounds per ten-hour day. By 1907, mercerizing machines were processing from 7,500 to 10,000 pounds of skein per day. Seconds in those days were usually 20% or higher.

The first issues of TEXTILE BULLETIN were published just as electricity was becoming an important source of industrial power. By 1920, the improvements in electrical motors made possible speeds which had only been hoped for previously.


Early type 5-roll rolling calender with steam reciprocating motor.


Early type bleachhouse washer.

However, the new speed potentials created mechanical problems which had to be solved by advanced engineering.

Practically all machines up to this time had been built with bearings of babbit or bronze, which wore excessively under friction and the strains of the new speeds. Various types of anti-friction bearings were developed to meet this need. Side by side with these developments, research produced the necessary lubricants, new drives and mechanical and electronic controls.

Co-operation between the machine builder and the chemist grew stronger during the '20s. It was then that continuous dyeing for all vat colors was inaugurated.

During the late '20s, printing machines made a comeback. They were not new—printing machines were made previous to the Civil War. But the very successful production of colors which were fast to light and washing brought printing back. The machines of today, of course, print many shades in continuous operation.

With the '30s came stainless steels and other non-corrosive metals. The new metals, which did not absorb the color dyes, eliminated the boiling out procedure necessary on the old wood vats and older-type kiers and substituted a water flushing procedure. It became possible to change from green to white in a matter of minutes whereas wood or corrodible tanks required hours and even days to make the switch.

There were several other important developments in the '30s. Continuous processing, drying and finishing of knit fabrics (cottons, rayons, woolens and mixtures) was introduced during this period, with speeds of 40 yards per minute. Interest in Sanforizing increased in the '30s, and the general public became very "shrink conscious" when buying textiles.

The war emergency forced many out-dated plants to re-tool, re-equip, re-staff and to pool all types of information. Operation of equipment had to be simplified since experienced personnel were going off to war, and new employees with little

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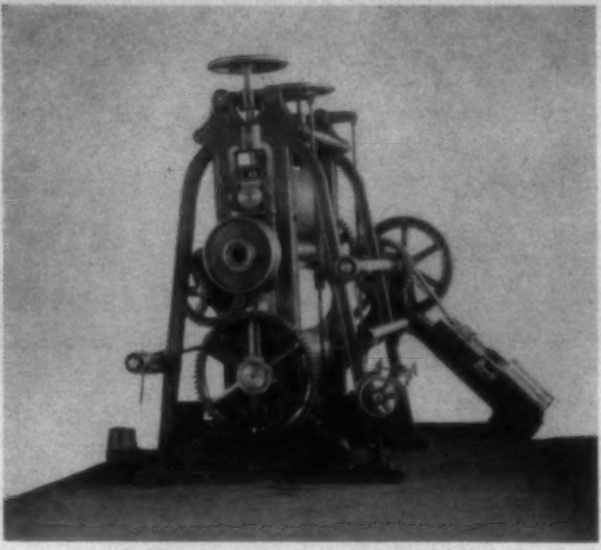
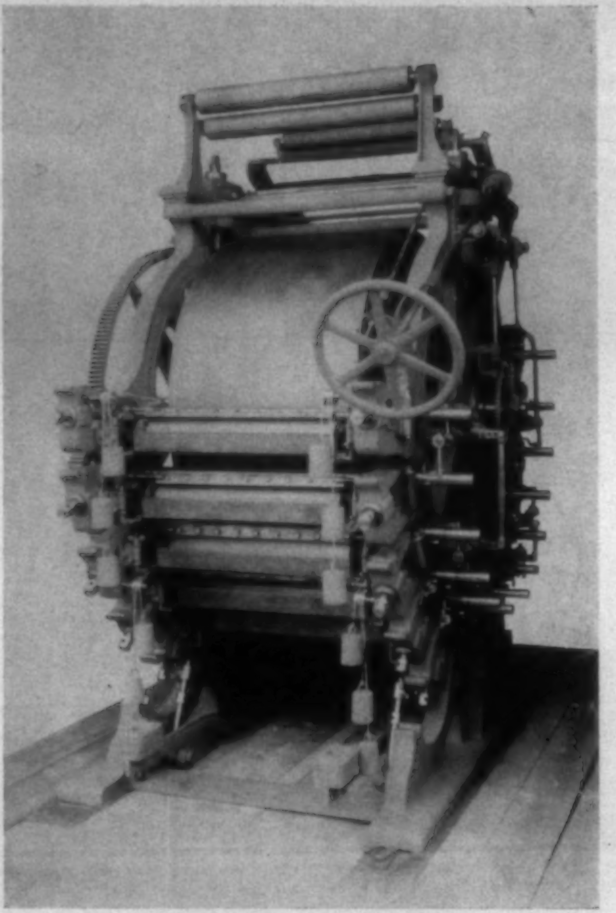
*Vice-President, Sales, H. W. Butterworth & Sons Co., Philadelphia, Pa.



3-Roll Friction Calender in use about 1900.



Printing machine used about 1900.

or no background in textiles had to take over.

Out of the new co-operation between the engineer and chemist, the electrical and metals expert, new processing equipment and new chemical processes have been achieved.

New electrical controls, motors with adjustable speeds and special co-ordinating equipment for textile finishing has brought about greater range operations in both cotton finishing and the processes used for the synthetics developed during the war.

Refinement and new developments in instrumentation have eliminated many separate steps in processing. Regulators, controllers and timing devices adjust sequences in dyeing and

Modern dyeing range from entering end.

scouring operations. Predetermined temperatures can be reached at exact intervals and such temperatures can be maintained or lowered either manually or automatically.

Liaison between the chemist and the machine builder has resulted in the development of successful continuous bleaching ranges. The ranges were offered commercially just prior to the war, but were perfected during the conflict and contributed to filling the demand for textiles which arose in the post-war period.

In recent years machine designers have aimed at making finishing machinery more flexible. For instance, one machine was designed which can be used as an extracting mangle, a caustic impregnator, a universal padder and a starch mangle. All these applications can be achieved with variation only in the boxes. In addition, with a change in the rolls, the machine becomes a 15-ton rayon calender.

Through the '50s, as demand for the new synthetics and blends grew, advanced finishing techniques were developed. The progress made by many chemical houses and dyestuff manufacturers during the period is remarkable. The correlation between actual mill operation and laboratory technique became much closer. Chemists and colorists were able to duplicate almost all mill conditions in their laboratory experiments.

In the last 50 years, great strides have been made in textile finishing processes. In the coming years, we look for many other advances.

Much more stress must be placed on research and development. We have to keep abreast of the new materials and procedures being used in other industries and try to adapt them to our own field. It is only through extensive study of new methods and new materials—through continuing experiments—that we of the textile industry will be able to meet the heightened demands of the consumer in the years ahead.

A.A.T.C.C. President, Committee Receive Certificate Of Service Awards

Elliott Morrill, president of the American Association of Textile Chemists & Colorists, was recently presented with a certificate of service ward by Charles A. Sylvester, chairman of the executive committee on research.

Mr. Morrill in turn presented awards to a number of retiring committee chairmen. Receiving wards were: Robert P. S. Black, The Du Pont Co., Committee on Bleaching; Dr. Alfred T. Clifford, Riegel Textile Corp., Committee on Nuclear Radiation; Roland E. Derby Jr., The Derby Co., Committee on Color; Herman B. Goldstein, Sun Chemical Co., Committee on Evaluation of Finishes for Resistance to Staining and Soiling; Charles W. Saalfrank, Sandoz Chemical Works, Committee on Colorfastness to Pleating; Joseph W. Schappel, American Viscose Corp., Committee on Soiling of Carpets; James Straley, Tennessee Eastman Corp., Committee on Colorfastness of Textiles to Atmospheric Contaminants; John T. Taylor, Rohm & Haas Co., Committee on Nonwoven Fabrics; Dr. Emil G. Wiest, The Du Pont Co., Committee on Analytical Methods; Dr. Ruby K. Worner, Southern Research & Development Laboratories, Committee on Water Resistance of Fabrics; and Dr. Stephen J. Kennedy, Quartermaster Research & Development Center, member of the Executive Committee on Research.

The estate of the late Otto Haas, former president and co-founder of Rohm & Haas Co., Philadelphia, Pa., chemical firm, has been valued at $146,714,406.

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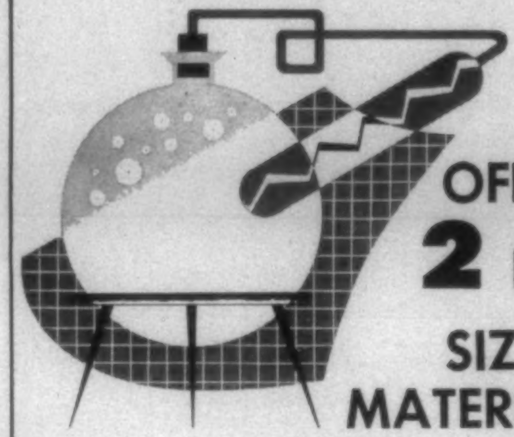

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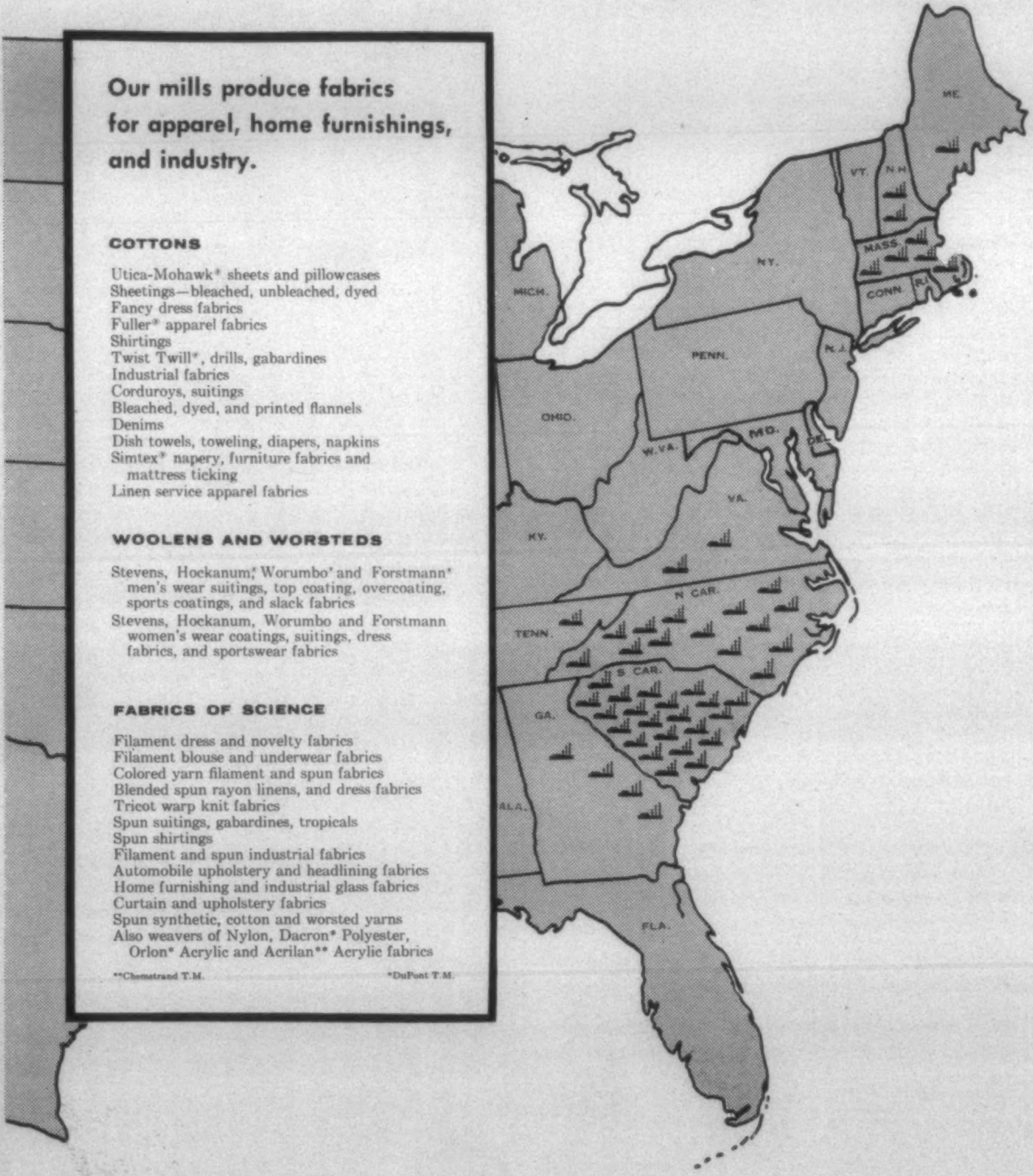

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Using Crammed Stripes To Vary A Design

CRAMMING, A USEFUL TOOL TO THE DESIGNER, GIVES A RAISED EFFECT TO A STRIPED FABRIC

By E. B. BERRY

LAST MONTH (T. B., January, P. 40) we reviewed the design requirements of a tissue gingham fabric. Picking up where we left off, let's assume that this design sold well its first season. But that in order to keep it moving, it had to be modified its second time around. One way to vary it, the designer decided, was to have the Blue stripe crammed both in the warp and in the filling.

Now just exactly what are crammed stripes? *Callaway's Textile Dictionary* defines the term as follows:

"Fabrics having stripes in which the threads per unit space are greater in the stripe than in the ground. Made by cramming more than the usual number of ends in certain dents in the reed; or, if fillingways, by stopping the take-up motion on certain picks. Crammed stripes are used in shirting, handkerchief borders, etc."

Cramming is a very useful tool in the hands of a designer. It can be incorporated in almost any light or medium weight fabric. It can be done in the warp direction only; in the filling direction only; or in both warp and filling direction.

The raised effect in a warp cram could be obtained by the use of heavy yarns. In order to show up as a raised portion, the crammed yarns would have to be a great deal heavier than the adjoining ground yarns. This presents a problem when making the loom beam, for yarns of two decidedly different diameters will not pack well together when the beam is made.

Yarns of the same size (yarn number) are used and they are crowded or crammed in the reed to make a raised portion or stripe in the warp direction. Many of these crams are put in plain weave fabrics. Merely doubling the ends per dent and keeping the same plain weave will not produce the desired effect.

One object in the warp cram is to hide the filling, and present a raised, smooth surface which can be felt by running the fingernail over the fabric. The weave therefore is changed to a 3 up—1 down twill or a 5-harness warp effect satin. Both are warp effect weaves, and will hide the filling.

Fig. 1a shows a cross section of the plain weave area, while Fig. 1b shows a cross section of the 3/1 twill area. The amount of bending of each warp yarn in these two cases is different, and therefore both could not come from the same beam. Also, Fig. 1b would not produce the raised surface which is needed in a cram.

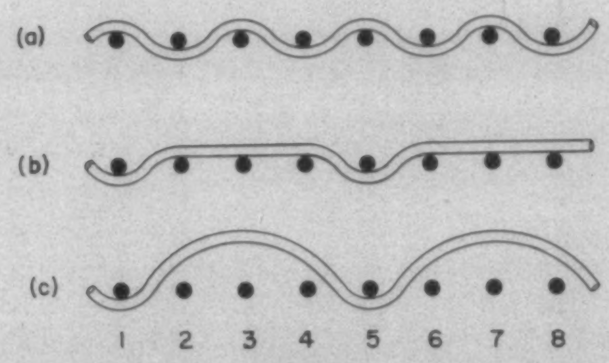

Fig. 1

Fig. 1c shows the weave of 1b but has the same contraction or bending as 1a. Therefore, the two yarns can come from the same beam. If only one yarn as 1c would be woven by itself, it would be loose or flimsy and tend to fall over. In order to make this stand up, more ends are put in a dent than in the plain weave area. How many ends per dent should be used? This depends on the weave and therefore the number of intersections.

An intersection may be expressed as an end passing from one side of the cloth to the other. An end passing from the face of the cloth to the back forms an intersection between two picks. The end must return to the face of the cloth before it can repeat the movement. In doing so, it forms a second intersection. Therefore, intersections are made in pairs.

In order to keep the contraction the same for both the plain weave ends and the twill weave ends, each *dent* must contain ends that will give the same total number of intersections per repeat. Several repeats of the weaves may be needed to have them come out together.

In Fig. 1a, there are 4 intersections in 4 picks and these are 2 ends per dent in this plain weave; so there are $4\times 2=8$ intersections in 4 picks. From Fig. 1c there are 2 intersections in 4 picks. The total in this dent must be 8 in 4 picks so $8\div 2=4$ ends per dent. With this reeding, the contraction of both plain weave and twill weave will be the same. Therefore, all the yarns will come from the same loom beam.

The extra amount of yarn over that required for the intersections in the twill weave ends will be used to form the cram. The ends will appear as Fig. 1c. The fact that they are crowded in the same dent will push them up, giving the raised portion in the cloth.

5-Harness Satin Weave

If a 5-harness satin weave is to be used, the ends per dent in the cram area would be figured as follows:

A repeat of the 5-harness satin is 5 picks but this is not a multiple of 2 (repeat of plain weave). Both weaves will be repeated until they come out together, which in this case would be 10 picks. In the plain weave, there are 10 intersections in these 10 picks, and with 2 ends per dent, this makes $10\times 2=20$ intersections per dent in 10 picks. The satin weave must have 20 intersections per dent in 10 picks also. Since there are 4 intersections in 10 picks for each end of the satin weave, the calculation is $20\div 4=5$ ends per dent.

With this reeding, the contraction of both plain weave and satin weave will be the same, therefore, all the yarns will come from the same loom beam.

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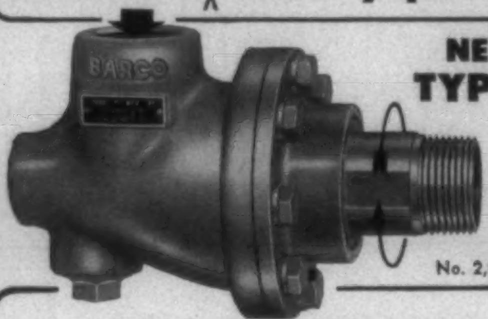

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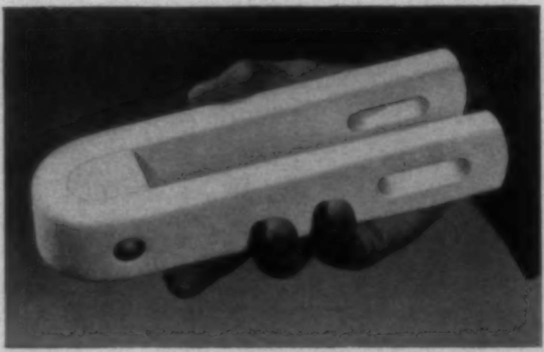

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Fig. 2

1 Color of Stripe	2 Width of Stripe	3 Dents per inch in Cloth	4 Calculated Dents per Stripe	5 Used Dents per Stripe	6 Ends per Dent	7 Ends per Stripe
White	.07"	54	3.78	4	2	8
Blue	.10"	54	5.40	6	2	12
White	.07"	54	3.78	4	2	8
Grey	.80"	54	43.20	43	2	86
White	.19"	54	10.26	10	2	20
Red	.78"	54	42.12	42	2	84
White	.19"	54	10.26	10	2	20
Grey	.80"	54	43.20	43	2	86
	3.00"		162.00	162		324

layout as shown in Fig. 2. This is to be woven in a tissue gingham fabric, 108 ends × 92 picks with the same pattern filling-wise as in the warp. The blue is to be crammed in the warp and in the filling.

Fig. 3 shows the summary and gives the calculations of the data needed in the warp direction. Column 1 shows the color of the stripe, and lists each color in sequence for the entire repeat. The width of stripe is in Col. 2. This is measured from the original sample.

The third column is dents per inch in the cloth. This will, of course, vary with different fabric constructions. The calculation will be $\frac{108}{2} = 54$ dents per inch in the cloth. This is a fine reed, but is acceptable to weave this fine tissue gingham.

Col. 4 (calculated dents per stripe) is simply the product of Col. 2 times Col. 3. This will generally come out in a decimal, and is the number of dents necessary with the reeding of 2 per dent, to produce the desired width of stripe from the original pattern. Adjustments must be made because it is impossible to have in the cloth .78 dents.

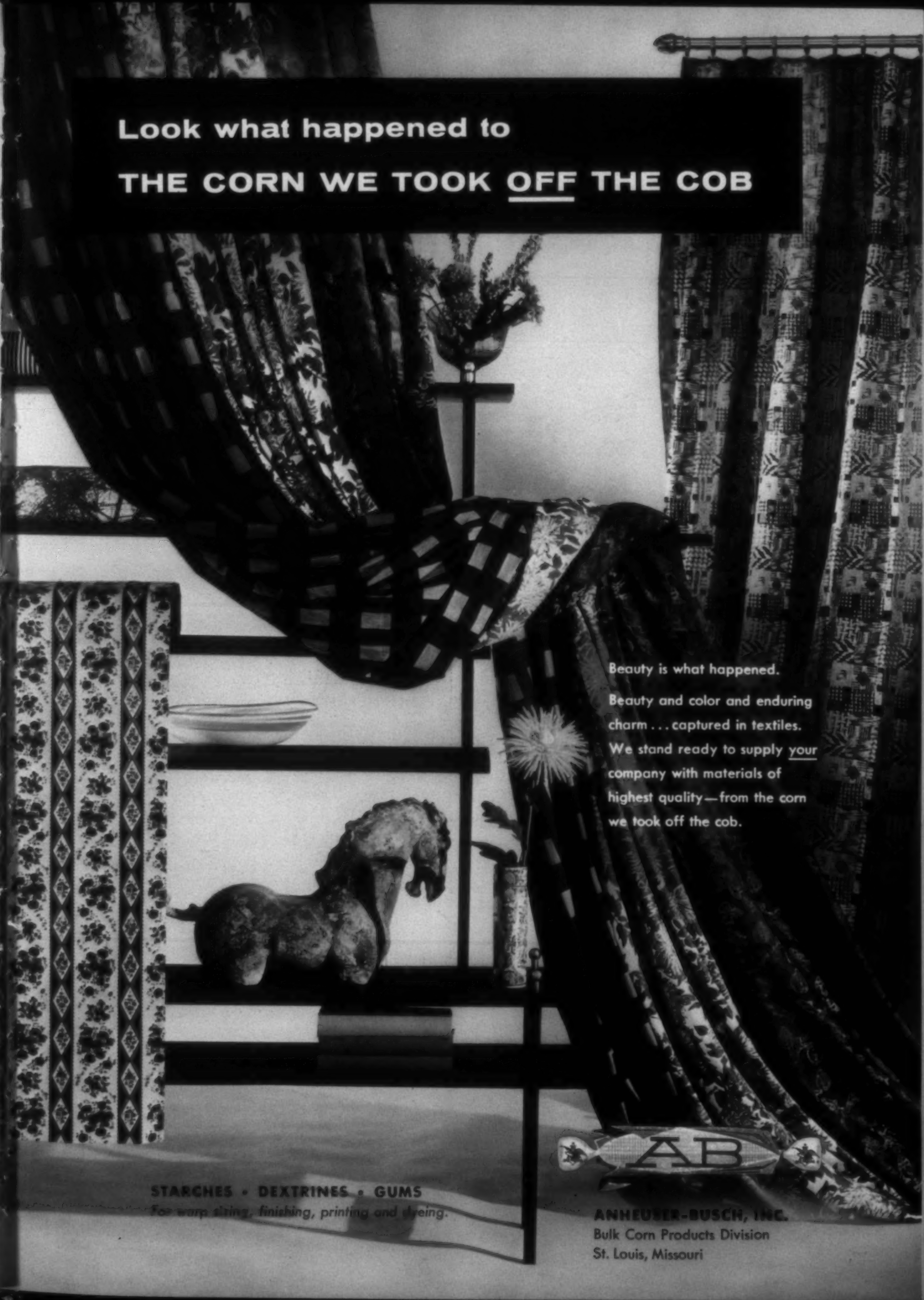
Care must be exercised in making the adjustment from Col. 4 to Col. 5. If each individual line is increased, the pattern in the cloth may be larger than the original pattern. If each line is decreased, the pattern in the cloth may be too small, and therefore may not be acceptable to the customer. Some colors may, therefore, be increased while others are decreased.

Col. 6 is the ends per dent. In the plain weave areas the figure is 2 as has already been determined in calculating the number 54 in Col. 3. The 3/1 twill of the Blue stripe will be reeded 4 per dent, as has already been calculated.

Ends per stripe, Col. 7, is merely the product of Col. 5 times

Fig. 3—Warp

1 Color of Stripe	2 Width of Stripe	3 Dents Per Inch in Cloth	4 Calculated Dents Per Stripe	5 Dents Per Stripe	6 Ends Per Dent	7 Ends Per Stripe
White	.07"	54	3.78	4	2	8
Blue (cram)	.10"	54	5.40	6	4	24
White	.07"	54	3.78	4	2	8
Grey	.80"	54	43.20	43	2	86
White	.19"	54	10.26	10	2	20
Red	.78"	54	42.12	42	2	84
White	.19"	54	10.26	10	2	20
Grey	.80"	54	43.20	43	2	86
	3.00"		162.00	162		336



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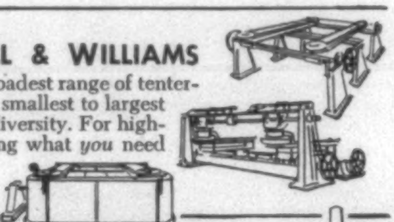

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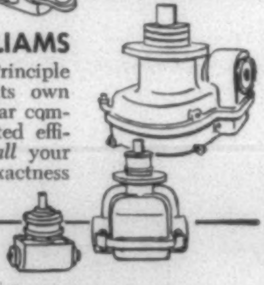

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Col. 6. This is the exact number of ends that will appear in the cloth.

In order to determine the accuracy of these figures, the width of the stripe in the cloth should be very close to the width of the stripe from the original wall paper design. The ends per stripe (sum of Col. 7) cannot be used because of the odd and uneven reeding. The sum of Col. 5 is 162 dents and with 54 dents per inch in the cloth, the calculation is $\frac{162}{54} = 3.00''$. This is exactly the width wanted from the original sketch.

The original sketch (Fig. 2) shows length-wise stripes only. This would be in the warp direction, but the customer wants the tissue gingham to have the same pattern in the filling, too.

A good rule of thumb is to have the filling pattern 10% longer than the warp pattern is wide. This would make 3.00" wide × 3.30" long.

Fig. 4—Filling

1 Color of Stripe	2 Width of Stripe	3 Picks Per Inch	4 Calculated Picks Per Stripe	5 Used Picks Per Stripe	6 Picks Used of Weave
White	.08"	92	7.50	8	8
Blue (cram)	.11"	184	22.49	24	12
White	.08"	92	7.50	8	8
Grey	.88"	92	80.59	80	80
White	.21"	92	18.74	18	18
Red	.86"	92	78.72	78	78
White	.21"	92	18.74	18	18
Grey	.88"	92	80.59	80	80
	3.31"			314	302

Fig. 4 is a chart made up to determine the picks per color stripe. Col. 1 shows the color of the stripe and will list each color in sequence, for the entire repeat, the same as was done in the warp. The width of stripe in Col. 2 is the warp width times 10%. Col. 3 is 92 which is the picks per inch in the base fabric. However, in the Blue stripe, there will be 184 p.p.i., which is the stripe that is crammed.

The calculated picks per stripe (Col. 4) are determined as follows:

There are 92 p.p.i. in the base fabric, and 108 ends per inch, so $\frac{92}{108} = .8519$. This is the ratio of picks to ends, or one end will occupy the space of .8519 picks. The filling pattern is to be 10% greater in size than the warp, so multiply the .8519 by 1.10 or .9371.

The number of ends of each color in the warp pattern (Col. 7, Fig. 3) is multiplied by .9371 to arrive at the calculated picks per stripe. The first one (Col. 4, Fig. 4) is $8 \times .9371 = 7.50$.

Col. 5 takes some juggling. A part of a pick is impossible to weave, and merely a whole number, if it is odd, would require a pick-and-pick loom. In a fabric such as this tissue gingham, the price would not allow such expensive weaving.

If all the individual lines are increased, the pattern may be too long. If they are all decreased, the pattern may be too short. The Blue cram is shown as 24 while 22.49 appears in Col. 4. It may be thought that the figure would be reduced to 22 rather than increased to 24. From Col. 7, Fig. 3, the

Blue has 24 ends, and since the filling should be longer than the warp is wide, it is risky to go less than the same number.

Picks used of the weave (Col. 6) is the same as used picks per stripe (Col. 5) for all lines except Blue which is crammed. The weave is opened up here which will be explained later.

A good check on the accuracy of these figures is to add Col. 6, which is 302 in this case. The 314 total from Col. 5 cannot be used, because the Blue picks are crammed. With 92 p.p.i. in the base fabric, the repeat will be $\frac{302}{92} = 3.28''$.

A 10% increase over the warp pattern will be $3 \times 1.10 = 3.30''$. This is very close, and readily acceptable.

Cramming in the filling direction is done as follows:

(a) Changing the weave to a 1 up—3 down twill or a 5-harness filling effect satin. These are filling effect weaves and will hide the warp.

(b) Increasing the picks per inch (generally double that of the surrounding ground fabric).

The width of the fabric in the reed is set. When the shed is closed and the harness are level, no more filling yarn can be unwound from the bobbin. When the harness are level, there are no interlacings yet, but the number and type of interlacings are already predetermined.

As the shed opens for the next pick, the interlacings are made, and by the time the shed is fully opened, the plain weave will appear as Fig. 1a. The contraction here is greater than in Fig. 1b. This means the width of the cloth will be less in Fig. 1a than in 1b. The ground fabric in crams is generally plain weave, and this will govern the width of the fabric.

When the cramming picks are inserted, and the harness is level, there are no interlacings yet, but the number and type of interlacings are already predetermined. As the shed opens for the next pick, the interlacings are made, but this time the weave is a 1 up—3 down twill as seen in Fig. 1c.

In the reed, the distance from selvage to selvage is always the same regardless of the interlacings of the warp and filling. The length of each pick, therefore, will always be the same, whether it is a ground pick or a cram pick. If it is a ground pick, the interlacings will be as Fig. 1a and the contraction will be high. When the cram pick is thrown, there are fewer interlacings, but with the same reed width as the ground pick, the extra length of yarn, over and above the interlacings, will buckle or bend up as seen in Fig. 1c.

If the same number of picks per inch of cram were inserted as compared with the ground, the bend up portion of the pick would tend to fall over; therefore, more picks per inch are inserted in the cram area. This is accomplished by raising the pawl on the take-up gear. While the pawl is raised, the take-up motion does not advance the cloth. This is generally done in groups of 2 picks. The take-up motion will operate as usual for 2 picks, then the pawl will be raised and 2 more picks will be thrown, but no take-up occurring. This will double the picks per inch in the cram area.

The combination of change of weave and double the picks per inch create the raised portion in the fabric that can be felt by running the fingernail over the ridge.

Picks Per Inch

If a one-inch pick glass is put on this fabric, all the colors will not be included. If the pick glass straddles the Grey, there will be White on each side, but the Red and Blue will not be included; likewise, if the pick glass is put on the Red, some White will be included, but the Grey and Blue will be omitted.

What are the picks per inch? Without any crammed picks, there are 302 picks per repeat (total of Fig. 4, Col. 6), and at 92 p.p.i., this filling pattern is $\frac{302}{92} = 3.282608''$ long.

Since there are 314 actual picks per repeat, this calculation is $\frac{314}{3.282608} = 95.65$ p.p.i.

Picks Per Inch Of Each Color

For costing purposes, it is necessary to determine the picks per inch of each color. Although there are 314 picks per pattern, the total picks per inch of all colors must add up to 95.65.

$\frac{92}{302} = .3046$. This is the ratio of picks per inch in the ground fabric to the picks per pattern without any cram. Expressed another way, each pick in the total base fabric is .3046 picks when considering picks per inch. This .3046 is then multiplied by each individual line in Fig. 4, Col. 5.

White $.3046 \times 8 = 2.44$
Blue $.3046 \times 24 = 7.31$
White $.3046 \times 8 = 2.44$
Grey $.3046 \times 80 = 24.37$
White $.3046 \times 18 = 5.48$
Red $.3046 \times 78 = 23.78$
White $.3046 \times 18 = 5.48$
Grey $.3046 \times 80 = 24.37$
95.65

Adding all the separate lines of the same color, this comes to:

P.p.i. White=15.84
P.p.i. Blue= 7.31
P.p.i. Grey=48.74
P.p.i. Red=23.76
95.65 p.p.i.

Filling Box Chain

One of the first items to consider in laying out any filling box chain is to have a smooth operation, with no skipping or jumping boxes. Another principle is to have in the top box the filling that is used most. Also, if one color is very hard to see, such as a black, have it in the top box.

All these ideal conditions are not always possible. From the above layout, it is seen that White separates all the colors. This means that in whatever box White is put, it will have to skip at least one box to bring up one of the other colors. For this reason, the White should not be put in the first or fourth box, as two boxes would then have to be skipped. White should be put in the second or third box.

Red and Blue appear only once in a repeat while Grey appears twice. A good plan would be to have Grey in the top box, White in the second box, Red in the third box and Blue in the fourth box. This is shown in Fig. 5.

For such a long filling pattern, the use of multipliers is

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Fig. 5—Box Plan

First Box—Grey				80				80
Second Box—White	8		8		18		18	
Third Box—Red						78		
Fourth Box—Blue		24						

essential. M_1 is a series of low links with a high link to stop. M_2 is a series of high links with a low link to stop. In this fabric M_1 of 4 links (8 picks) and M_2 of 9 links (18 picks) was selected. The reasoning is to use M_1 to get the 8 picks of White; M_2 to get the 18 picks of White; and the two together plus M_1 by itself to get 80 picks of Grey. This takes only 15 bars to get 314 picks per filling repeat.

This tissue gingham fabric has 108 ends and 92 picks and the warp and filling yarns are both 60/1. The cover factors then will be as follows:

$$K_1 = \frac{108}{\sqrt{60}}$$

$$K_1 = 13.94$$

$$K_2 = \frac{92}{\sqrt{60}}$$

$$K_2 = 11.87$$

This makes for a sheer but fairly firm fabric. In the cram areas, where the ends per inch and picks per inch are doubled, the cover factors are as follows:

$$K_1 = \frac{216}{\sqrt{60}}$$

$$K_1 = 27.87$$

$$K_2 = \frac{184}{\sqrt{60}}$$

$$K_2 = 23.74$$

The K_1 of 27.87 is approaching the theoretical limit while the K_2 of 23.74 is over the maximum. How is this woven, when K_2 has passed the theoretical limit? In the cram areas, the yarns are raised, and do not lie side by side. This allows for more diameters to be packed together as well as give the welted portion in the cram which is the desired effect.

The length in the cloth of the filling cram is only .1″, and for this short distance, the picks are packed in and the weaving will continue. However, it must be understood that a solid fabric made with 184 picks of a 60/1 cotton yarn with a 1 up—3 down twill weave could not be woven.

The warp cram uses a warp effect weave, while the filling cram uses a filling effect weave. What happens when the warp cram crosses the filling cram? The warp cram generally takes preference over the filling cram and the warp effect weave continues in the direction of the warp.

Where warp cram crosses filling cram, there is a very high concentration of yarn diameters. As has been seen, the cram area has a K_1 of 27.87 and a K_2 of 23.74. It is impossible to weave a solid fabric with a combined cover factor of 51.61. In order to relieve the pressure of so many yarn diameters, the weave is opened up and the same shed is held open for 2 picks. This allows the filling yarn to go where there is least pressure. One pick will be almost on top of the other pick under these conditions. Thus, it is possible to weave over the theoretical limit in this small area. Also, it contributes to the raised or welted effect which is desired in the cram effects.

Fig. 6 shows the weave, drawing-in draft and reed plan for this warp and filling crammed fabric. In the drawing-in draft, the first 2 harness are used for the selvage. This is the so-called plain weave selvage. The next 4 are for the plain weave area. Normally 2 harness could be used, but this sley is high (108) and with 4 harness, it calculates $\frac{108}{4} = 27$ heddles per inch on each harness frame. Due to the filling contraction, this will be reduced to approximately 25. The practical limit of duplex heddles with wire size of 16×85 is approximately 25, so 4 harness are used. These same ends must also weave when the filling cram is made. The filling cram weave is a 1/3 twill which takes four harness. Thus 4 harness are a necessity. Four more harness are used for the warp cram making a total of 10.

From this drawing-in draft, it can be seen that the warp cram is on a different set of harness than the plain weave.

Below the drawing-in draft is the reed plan. This fabric is reeded 4 ends per dent in the selvage, 2 ends per dent for the body in the plain weave area, and 4 ends per dent for the body in the cram area.

Fig. 7 shows the chain plans which are made for a loom equipped with 2 dobby cylinders. This has an advantage when weaving long patterns with small repeats of 2 different weaves, such as found in these ginghams, as well as in handkerchiefs, dress goods, etc. Since all 2-cylinder dobby looms do not operate the same mechanically, an explanation of the type used here will be in order.

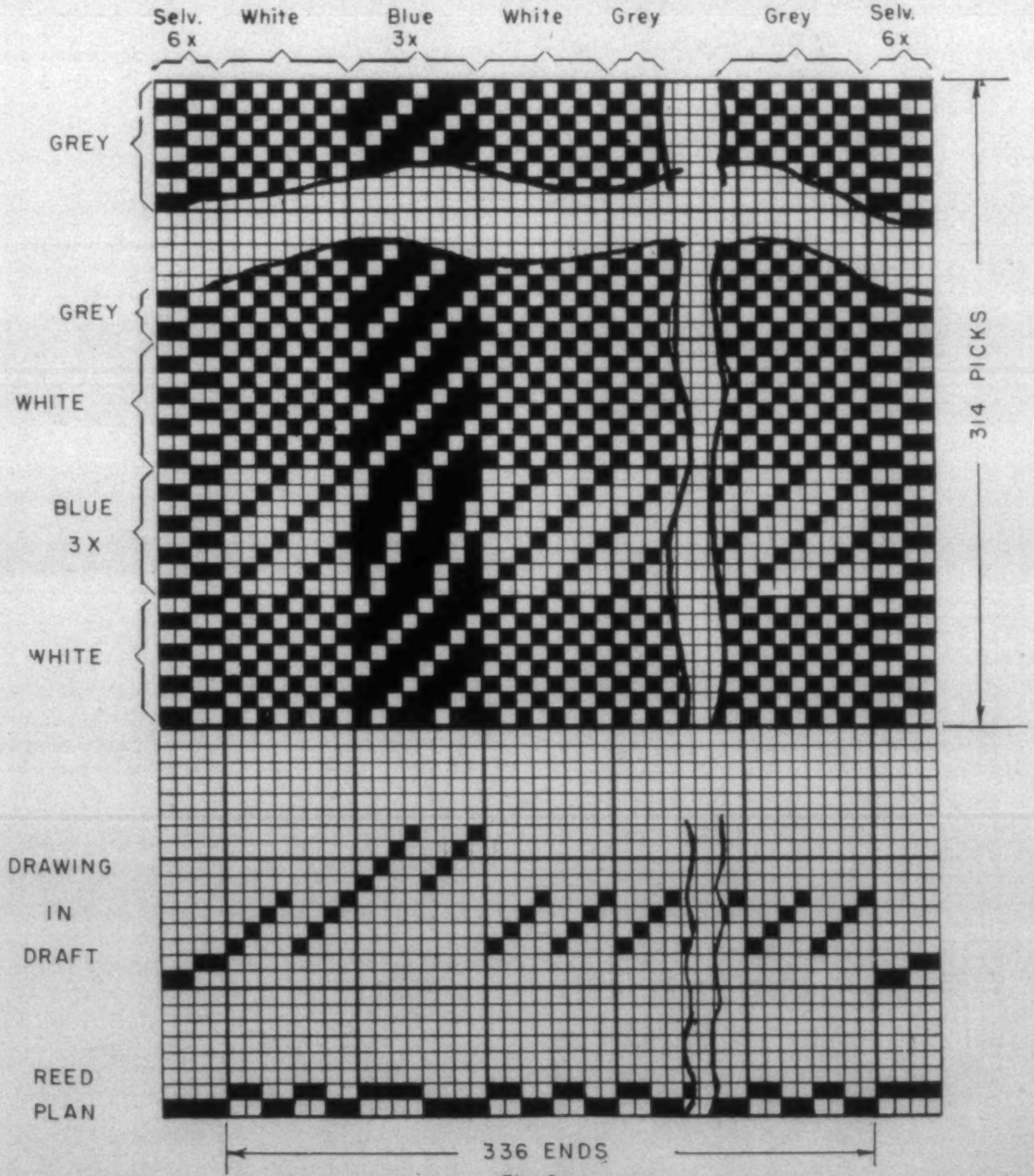

Fig. 6

The No. 1 or bottom cylinder will control the selvage harness and the 4 harness that make the plain weave ground fabric. A second or top dobby cylinder will control the 4 harness making the warp cram. This means that on every pick, an indication must come from *both* cylinders, for *neither* cylinder alone controls all the harness. The top cylinder must turn all the time, but may move once every pick or once every two picks. The bottom cylinder may turn or remain stationary.

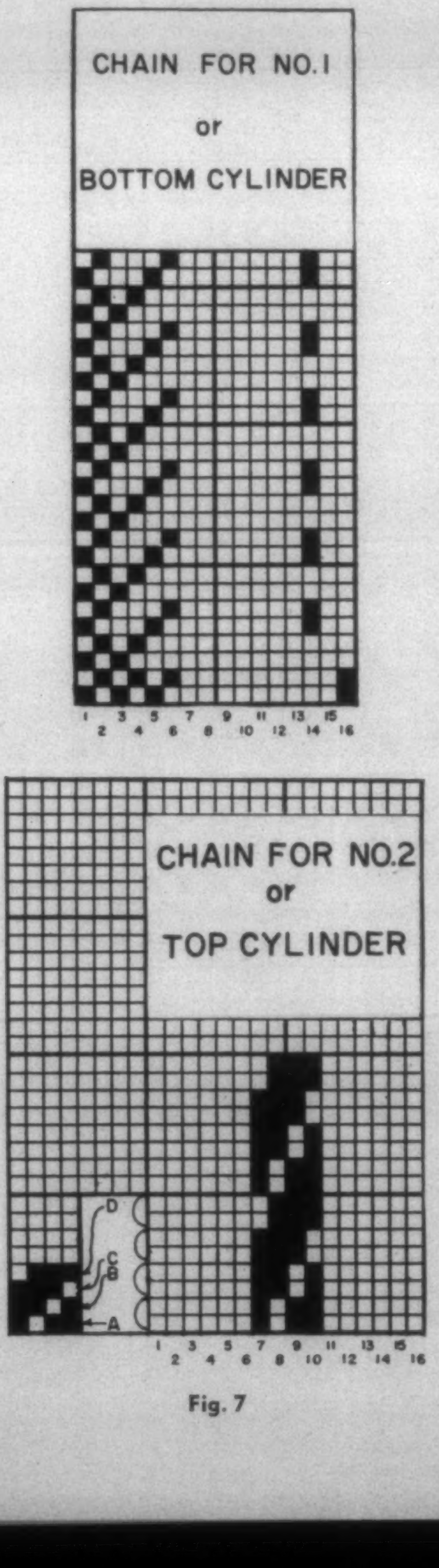

Fig. 7

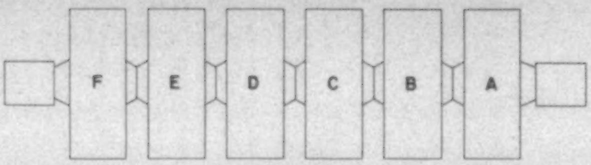

Fig. 8

Just what turning is done, and for how many picks, is determined by the box chain as seen in Fig. 8.

(A) No. 1 Multiplier (M_1)—A roller here will bring into operation M_1. This will start multplier chain one turning and the box chain will stop. A spacer here will allow the box chain to continue turning.

(B) Bottom cylinder clutch—A roller here will stop the botton cylinder from turning. In making this cram tissue gingham fabric, the harness which control the plain weave area and selvage are pegged on this bottom cylinder. Since a repeat of the plain weave is 2 picks, the bottom cylinder is held in position (does not turn) for the length of the cloth which is between the filling cram stripes. A spacer here will start the bottom cylinder turning. This bottom cylinder is also used to control the harness which make the shed when the filling cram picks are woven for the ends that otherwise weave plain.

(C) Blank (not used).

(D) No. 2 Multiplier (M_2)—A roller here will bring into operation M_2. This will start multiplier chain No. 2 turning and the box chain will stop. A spacer here will allow the box chain to continue turning. It is possible to use M_1 and M_2 in combination with each other. This makes possible the weaving of many, many picks with a very small number of links in the box chain. Unless the number of links in M_1 and M_2 have no common denominator, the full advantage of using the two multipliers in combination is lost.

(E) Controls boxes No. 1 and No. 2—A roller here will bring up box No. 2. A spacer here and at F will allow No. 1 box to weave.

(F) Controls boxes No. 3 and No. 4—A roller here and a spacer at E will bring up box No. 3. A roller here and at E will bring up box No. 4.

The harness which control the ends that make the warp cram are pegged on No. 2 or the top cylinder. These ends make the regular 3/1 warp twill at the time the ground ends are making plain weave. When the filling cram is made, the weave for the warp cram ends must open up to allow for more diameters. This is done by putting 2 picks in the same shed.

Under normal conditions, two separate weaves (at different times) for the same harness would require a very long chain, for the entire repeat would have to be pegged. In order to cut down on chain building, the top cylinder on this loom may be turned once every pick or once every two picks.

When the filling cram is being woven, the top cylinder turns once every 2 picks, and the weave will be exactly as the chain plan. This gives the 2 picks per shed which is necessary to open up this area of the fabric.

When the harness which are controlled from the bottom cylinder are making plain weave, the top cylinder turns once every pick. Thus only half the picks are used, but note, it is not every other pick. As No. 1 bar comes up, the first pick on this bar (pick A) will give the indication. When No. 2 bar comes up, the second pick on this bar (pick B) will give the indication. No. 3 bar will give the indication from the first pick, (pick C), and No. 4 bar will give the indication from the second pick, (pick D).

Reassembling these picks in their proper sequence, it will be seen that the weave is the regular 3/1 twill needed. Care must be exercised in the selection of the weaves used here, for the top cylinder must be capable of producing two different weaves, otherwise nothing will be saved on the length of chain.

How is it possible to vary the speed of this top cylinder? There are two pawls which move the top cylinder. When both pawls are in operation, the top cylinder turns every pick. No pegging is needed for both pawls to operate the top cylinder. When it is necessary to turn the top cylinder every pick, the indication must be received from the bottom cylinder, through jack No. 16.

The let-back, which is operated from the bottom cylinder, is pegged to work through jack No. 14. This is pegged to take up 2 picks, then the pawl is raised for 2 picks, when the take-up motion does not operate.

Although not used for this fabric, jack No. 15 is used to raise up all the index fingers off No. 2 cylinder.

Box Chain Plan

Most of the important information has now been set down. The weave, drawing-in draft, chain plans and the proper color in the proper box have been worked out. It is now necessary to co-ordinate all these separate items so that the correct shuttle will weave in the proper shed, and which dobby cylinders will turn, for the correct number of picks. This co-ordination is done in the box chain plan. Fig. 9 illustrates the layout of this important chain for the tissue gingham fabric.

Fig. 9—Box Chain Plan

Color	Number of Bars	Total Picks		F	E	D	C	B	A
White	1	8			X			X	X
Blue (cram)	3	24		X	X				X
White		8			X			X	X
Grey	1	72	80			X		X	X
Grey	1	8						X	X
White	1	18			X	X		X	
Red	1	72	78	X		X		X	X
Red	3	6		X				X	
White	1	18			X	X		X	
Grey	1	72	80			X		X	X
Grey	1	8						X	X
	15	314							

There is an additional detail which should be considered in designing such a cram fabric on this double cylinder dobby loom. This is the type of selvage. The so-called plain weave selvage is used. It is made with two warp threads in one heddle eye, and all selvage heddles are made to weave plain. The operation of the selvage harness is pegged on the bottom cylinder. This cylinder remains stationary for 278 picks. The repeat of the selvage weave, therefore, must repeat on 2 picks. If it is repeated on 4, as in the case of a basket tape selvage, the chain for the bottom cylinder would have to be pegged for the entire 278 picks. It could be woven, but the time and expense to peg this extra long chain would be considerable.

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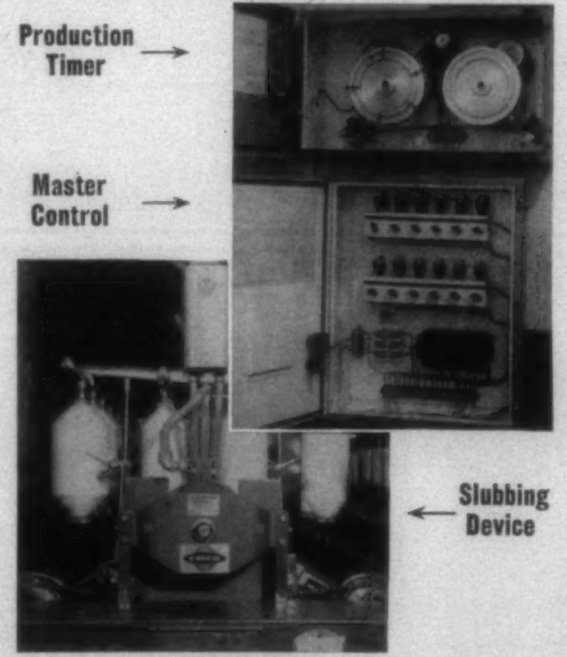

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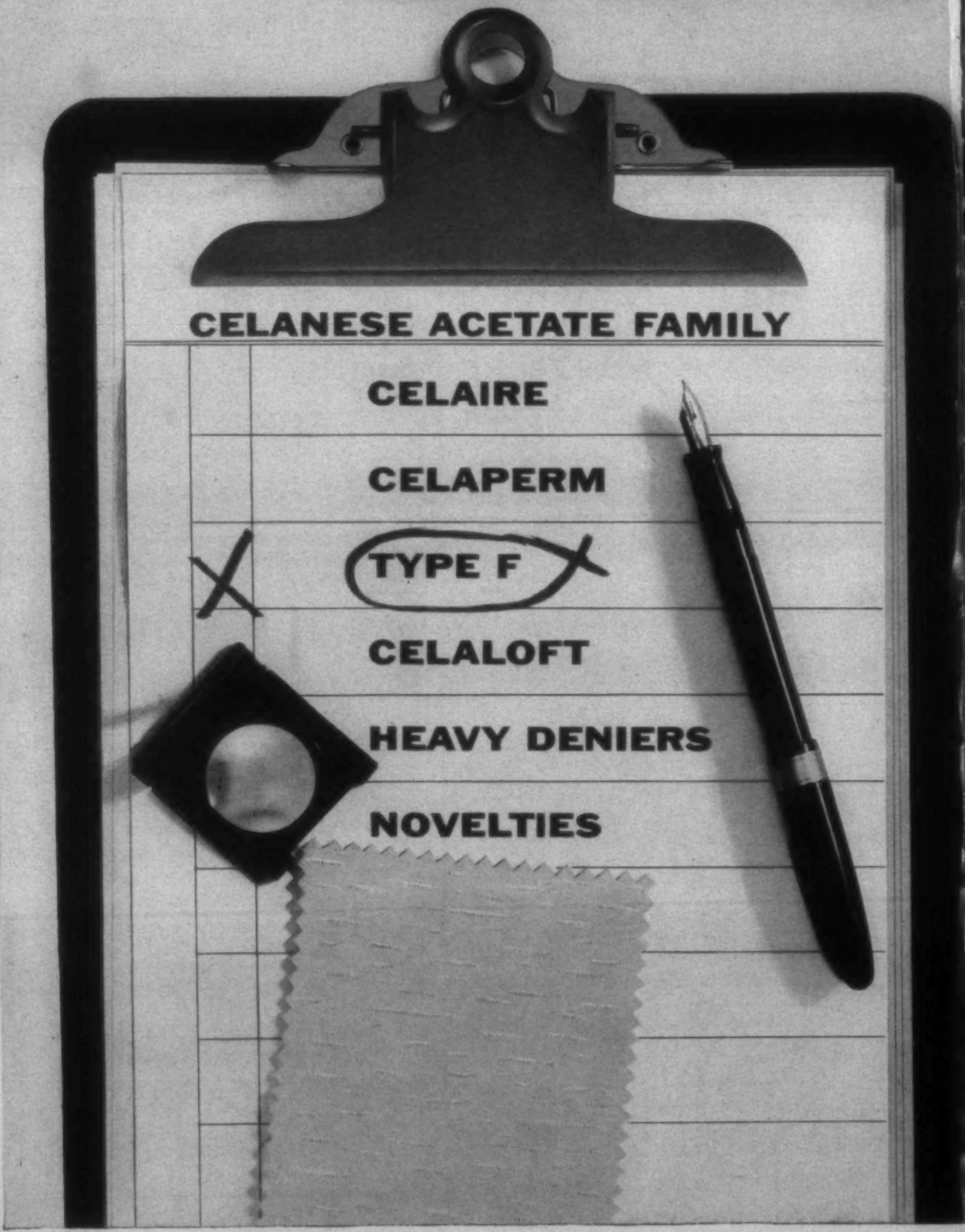
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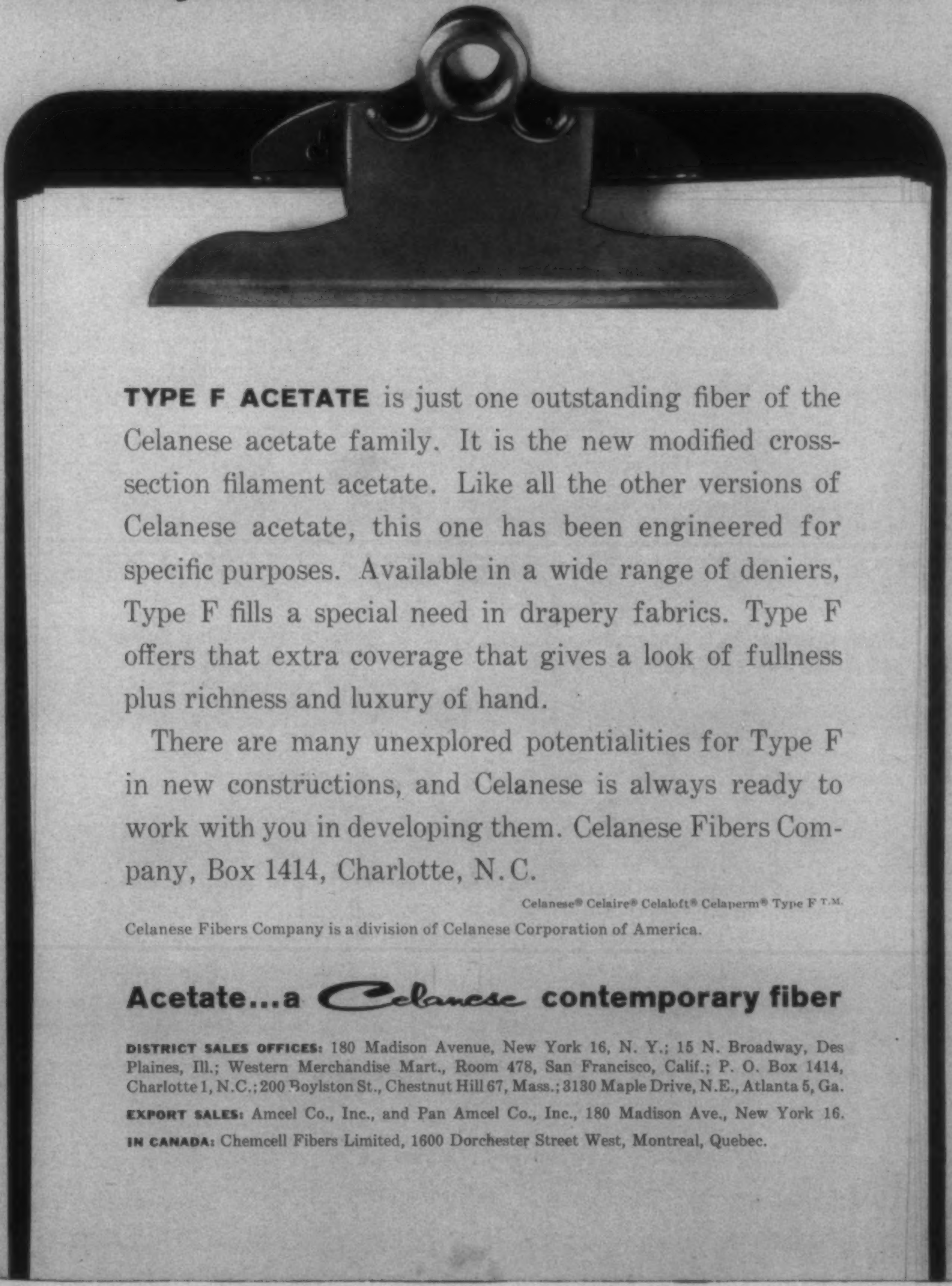

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Mills Report Savings Of 1-4% Card Waste With Use Of The S.R.R.L. Granular Card

EVALUATIONS BY 10 MILLS CITE NO ADVERSE EFFECTS ON PROCESSING EFFICIENCY, UNIFORMITY OR STRENGTH

By R. A. RUSCA
A. L. MILLER
and R. S. BROWN*

IN April 1959, a new method of carding without the use of revolving flats was announced by the Southern Regional Research Laboratory(1). The S.R.R.L. Granular Card is a standard flat card converted for carding without flats. The conversion substitutes sharp-pointed granules for flat wires, hence the name. The flat assembly and flexible bends are replaced by a nonmoving cover with the special carding surface closely spaced to the main cylinder, and a small metallic wire roll is installed to preopen the fiber tufts thoroughly before carding. A modified lickerin cover that improves cleaning at the mote knives is used also. Details of the theory and design of the card have been reported(2,3), and will not be repeated here.

The Granular Card is being evaluated widely by the textile industry. More than 200 units are operating in about 70 mills, and the purpose of this article is to briefly present reports from 10 of these mills.

Mill A—Coarse Yarn

Mill A produces coarse yarn for industrial fabrics. The mill installed one Granular Card in August 1959, and four additional cards in January 1960. Tests were conducted using Strict Low Middling, 1$\frac{1}{32}$-inch cotton. The standard and granular cards had 100-110 fillet type wire on the cylinders and doffers, respectively. Production rate was 14 pounds per hour. Grinding cycle was standard and stripping cycle was four hours.

Results of the evaluation are tabulated in Table 1. The management concluded that, "We were able to produce a stronger and more uniform yarn using the Granular Card. This was achieved with less waste and better running on the spinning frames. The test has been repeated with essentially the same results."

Table 1—Comparison of Standard Card and Granular Card in Mill A[1]

	Standard Card	Granular Card
Total waste %	5.11	1.97
Web quality	Standard	Standard
Sliver uniformity	Standard	Standard
Yarn, 6.75/1 (87.5 Tex)		
Uniformity	18.1	17.3
Strength, corrected break	278	289
Ends down/M spindle hrs.	53	39

[1] Fillet wire

Mill B—Medium Coarse Yarn

Mill B has two granular card conversions on metallic wire cards, processing Strict Low Middling and Low Middling, one-inch staple cotton. Production rate was 12½ lbs./hr., with the carded stock being spun into 12.75/1 filling yarns.

The granular tops were set at .015-inch from the main cylinder instead of the recommended .005 to .007-inch, which is believed to be the cause of the relatively poor quality reported (Table 2).

Mill C—Medium Yarn

Four granular cards were operated for a year by Mill C, processing Low Middling one-inch cotton at 13 lbs./hr. for several yarn numbers. One of the more recent evaluations was made with granular tops on metallic wire cards for the production of 20/1 yarns.

As indicated in Table 3, the major advantage of granular carding was the saving in waste due to the elimination of flat

Table 2—Comparison of Standard Card and Granular Card in Mill B[1]

	Standard Card	Granular Card
Card Waste		
Total waste in 8 hrs.	5 lbs. 6 oz.	2 lb. 15 oz.
Reduction, %		54.6
Card Web		
Imperfections/100 sq. in.	96	120
Yarn, 12.75/1 (46.3 Tex)		
Break factor	1739	1630
Regularity, CV%	15.7	16.7
Fabric		
Strength, lbs.	74.5	75.0
Mullen burst	106	120

[1] Metallic wire

Table 3—Comparison of Standard Card and Granular Card in Mill C[1]

	Standard Card	Granular Card
Sliver delivered %	94.9	96.4
Neps/100 sq. in.	21	23
Coef. Variation, %		
Card sliver	2.2	2.2
Drawing sliver	3.9	3.8
Roving	7.3	7.3
Yarn, 20/1 (29.5 Tex)		
Uniformity, CV%	15.8	16.2
Skein strength, lbs.	92.0	94.0
Break factor, lbs.	1859	1881

[1] Metallic wire

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*Southern Regional Research Laboratory. One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

strips. It was reported that, "The sliver quality from the granular top card appeared as good as that from conventional fillet or metallic clothing with regular flats. There was no appreciable difference in nep counts, loading, sliver variation, yarn strength, yarn variation or appearance."

Mill D—Sales Yarn

Mill D is a sales yarn mill specializing in 30/1 yarns. The cotton used was El Paso area, Acala 1517 variety, Low Middling, 1⅛-inch, average Micronaire Reading 3.6. Card production rate was 12.7 pounds per hour. The Granular Card produced 8.3% less neps. Waste and product quality of the two methods of carding are presented in Table 4.

Table 4—Comparison of Standard Card and Granular Card in Mill D[1]

Product	Standard Flat Card		Granular Card	
Waste %				
Flat strips	2.02		0.00	
C & D strips	1.00		1.00	
Motes and fly	1.03		.71	
Total	4.05		1.71	
Waste Analysis, %	Lint	Trash	Lint	Trash
Flat strips	86.0	14.0	—	—
C & D strips	84.0	16.0	82.0	18.0
Motes and fly	34.2	65.8	20.6	79.4
Yarn Quality, 30/1 (19.7 Tex)				
Grade	C—		C	
Strength	Same		Same	

[1] Fillet wire

The results indicate that the Granular Card had less than one-half the waste, and produced the same or slightly better quality yarn than the conventional card. The mill report, dated March 12, 1960, stated:

"This card was put into production on September 16, 1959, and to this date we have not contacted any unusual wear on the emery. This card is doing as good a carding job to date as when first installed. Grinding cycle on regular card is every 18 days and on Granular Card every 30 days.

"The thing that is most impressive on the Shirley Analyzer test is that practically the same amount of trash was taken from the fly and motes of the Granular Card compared with fly motes, and flat strips from the regular cards."

Other Mill Reports

Mill E One Granular Card conversion on fillet wire card in operation three months. The quality of the web is rated as fourth best in 144 cards. The quality of the yarns (18/1-30/1) is equal or better than produced with stock from standard flat cards. Will purchase second conversion for experimentation on metallic wire card; if successful, would like to convert mill to metallic wire, granular carding.

Mill F One Granular Card conversion on fillet wire card. Mill produces 50/1 to 100/1 combed yarns. Granular Card at 4½ lbs./hr. production is processing stock for 82/1 combed yarn. Yarn strength is better than average, and yarn appearance is in lower part of acceptance range. Will change from 80 grit to 100 grit in an attempt to improve yarn appearance, and continue evaluations.

Mill G One Granular Card conversion in operation on fillet wire card since October 27, 1959. Granular top is not properly adjusted, however, the quality of the web is considered good except for a slight increase in motes and seed particles which lead to larger than average defects in the yarn. In general, management is pleased with granular carding and has installed an additional unit on a metallic wire card for further evaluation.

Miller, Brown, Rusca

Checking data submitted by mills using the S.R.R.L. Granular Card are the authors of this paper—Ralph A. Rusca, R. S. Brown and A. L. Miller.

Mill H One Granular Card conversion on a metallic wire card processing $1\frac{1}{16}$-inch California cotton for 36/1 combed yarn. The web has more defects than the web for standard cards, possibly due to the 750 r.p.m. lickerin speed which may be too fast for the Granular Card preopener roll. Yarn appearance is acceptable, but not equal to the mill's standard. Yarn strength is good.

Mill I Two Granular Card conversions on fillet wire cards equipped with continuous strippers. Extensive tests since July 1959 at 10 lbs./hr. production rate show quality of web and of yarns (coarse) equals that of standard cards. Saving 3% card waste, which will pay for one Granular Card each week when all of mill's cards are converted, as is now underway.

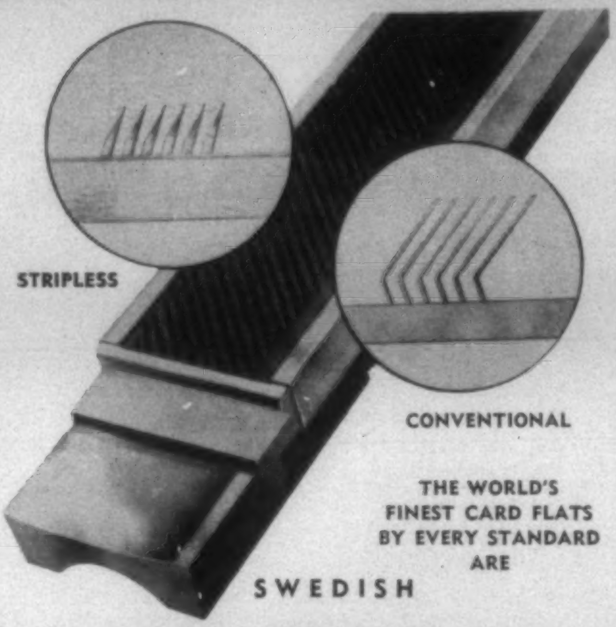
Mill J Two Granular Card conversions on fillet wire cards in operation for several months on a range of cotton and yarn numbers. Performance is satisfactory, with nep count, web appearance and yarn quality being equal to mill's standard cards. Waste saving depends on cotton processed—ranges from 2 to 4%. Quality control department is continuing to evaluate to determine life of granular surface. Granular Card "looks good," no maintenance and no trouble to date.

Mill K One Granular Card conversion on fillet wire and processing lower grade cotton for 20/1 sales yarn. General manager says the card is "amazing thing" that equals quality of standard cards in every way and produces practically no waste. Nep count and web quality are good, yarn quality equal or better, and spinning efficiency same as for standard card. Mill has budgeted for two additional granular tops in the immediate future.

General

Successful application of the principle of granular carding requires that the card be in good condition and that the close settings recommended by S.R.R.L. be followed. In this respect, the granular conversion requires the same care and close settings necessary for the successful installation and operation of metallic wire cards.

The granular surface should be replaced every six months



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of three-shift operation. Extending the life to nine months results in poor quality carding.

Mill experience reveals that the granular top should be reset three or four weeks after installation to compensate for the initial wear on the surface which may increase the clearance by an additional .004-inch. No further adjustment should be required for several months.

Summary

The cotton textile industry is evaluating granular carding on a wide scale. Reports from mills indicate savings of 1 to 4% card waste, without affecting mill processing efficiency or yarn uniformity or strength. In some cases a slight increase in trash particles may detrimentally affect yarn appearance. There is some evidence that granular carding is more suitable for coarse and medium yarns than for fine yarns. Maintenance on the granular conversion apparatus is negligible.

References

(1) U. S. Dept. Agr., Press Release, U.S.D.A. 609-59. (March 16, 1959).

(2) Miller, A. L., and Brown, R. S., *Textile Research Journal* 29, 733-736 (September 1959).

(3) Rusca, R. A., *J. Textile Inst.* 50, P360-P377 (August 1959).

Three New Research Labs Created By U. S. Department Of Agriculture

Three new research laboratories have been created at the U. S. Department of Agriculture's Southern Utilization Research & Development Division, according to Dr. C. H. Fisher, division director. The new laboratories were created out of existing laboratories to afford the division more efficient research planning and operation, with added emphasis on basic research as well as commercialization of new developments.

Under the new organization, the resarch of the division will be done in ten laboratories, each under the leadership of a scientist who is a specialist in the field. The new laboratories are: Cotton Chemical Reactions Laboratory, with W. A. Reeves temporarily acting as laboratory chief; Cotton Physical Properties Laboratory, with Assistant Division Director C. L. Hoffpauir temporarily acting as laboratory chief; and the Naval Stores Laboratory with R. V. Lawrence as chief. The Naval Stories Laboratory is a field station of the division and is located at Olustee, Fla.

Bigelow-Sanford Develops New Method For Multi-Colored Dyeing Of Carpets

Bigelow-Sanford Inc., New York City, has announced the development of what it describes as a revolutionary method for applying multi-colored patterns to broadloom carpets and rugs in a single operation. The method is said to have capacity for broad versatility. In it, multi-colored pattern is applied to undyed carpet by a precision forcing of the tufts into the shaped dye wells of a pattern mold. Deep-penetrating dyes, regulated by control pumps, impregnate the tufts to the depth of the carpet's pile. The method is capable of creating multicolored pattern with great clarity and definition in both cut and loop pile.

The first products of the new method called Tuft-Dyer were displayed January 6 at the National Home Furnishing Market in Chicago. The process is being used with rugs of wool, nylon and rayon.

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By NORBERT L. ENRICK*
Institute Of Textile Technology
Charlottesville, Va.

THE scheduling control board depicted in Fig. 1 was developed for multi-style spinning mills, and has proven itself in actual practice as a time-saving tool in scheduling sizing tests. In a mill with a great variety of yarn styles, it is always difficult to decide each day what frames to test, since the selection usually must fulfill several requirements:

(1) All frames must be tested within one or two weeks.

(2) Each style must be represented in at least one or two frames tested daily or every second day.

(3) Each frame make or drafting system must be represented for any style running on more than one make or drafting system.

(4) Within the testing cycle, such as one or two weeks, no repeat tests on any frame should usually be made (except where off-standard tests have been noted).

Complex records and time-consuming decision-making on frame selection each day are sometimes in use in such multi-style yarn mills. The scheduling control board for spinning sizing tests has been shown to permit efficient and quick frame selection.

Construction

The scheduling board can be made from a wooden board. For each frame in the spinning room, a number is shown, and below this number a hook or peg is provided. On each peg, there is suspended a colored cardboard tag, the color being used to identify the yarn style and number. For example, 31s yarn might be identified by the writing "31s" and a blue color; 40s yarn might be identified by "40s" and an orange color. Finally, round metal tags are provided, each tag numbered for one frame.

Operation

A glance at the control board shows the yarn styles at each frame. Therefore, if this is the beginning of the sizing period, the laboratory tester will select a pre-determined total number of frames, making sure that at least one or two frames (as specified) per style are included, and selecting proportionately more frames on the more predominant styles.

The tester removes the metal frame tags from the board, and places these in separate compartments in his sample-collecting wire basket; or, where a sizing truck with skein-pegs is used, the frame-tags are placed on the skein-pegs. Next the tester collects the samples and, after suitable conditioning, performs the sizing and break tests, recording the results on the usual reporting forms.

Upon completion of this work, the tester returns the frame tags to the board, but hangs them *face down,* so that the frame number does not show. This will serve to indicate to him on the next and successive days, that the particular frames were already sized during the period, and should not ordinarily be repeated until completion of the entire cycle.

At the end of the period, such as one or two weeks, when the testing cycle has been completed, all frame tags will be hanging face down. Then the tester will reverse the position of each tag, to be hanging face up again with the frame number showing. He is now ready to begin his new testing cycle.

It will be noted from this procedure, that frame selection is facilitated, possibility of mixing of samples is reduced, and the sizing operation as a whole is speeded up.

Extension Of Board

In addition to spinning sizing tests, the board can also be used to schedule testing in other departments in the mill, from cards through weaving and finishing. Also, not only sizing tests, but also tests for ends-down and loom-stops, percent non-uniformity, package weights, roll settings, roll run-out and other quality and performance characteristics, can be scheduled by similar applications of laboratory scheduling boards.

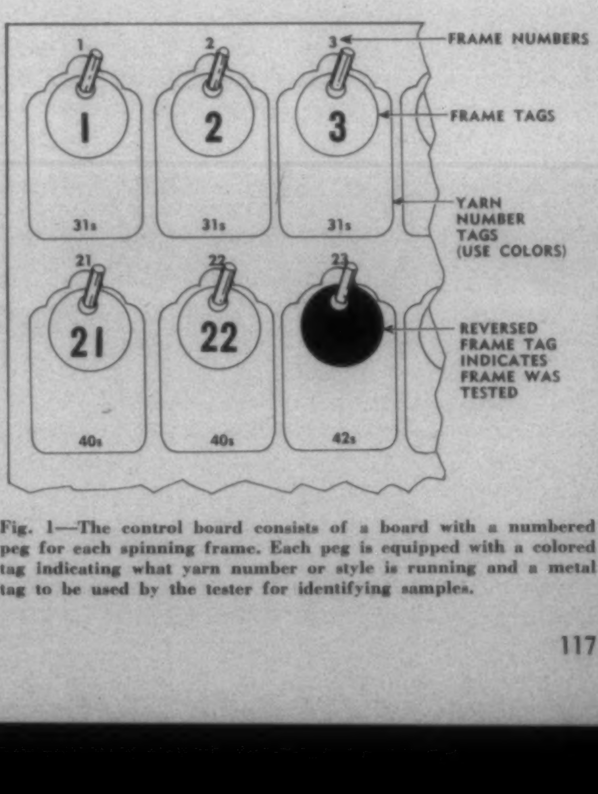
1
2
3
FRAME NUMBERS
1
2
3
FRAME TAGS
31s
31s
31s
YARN NUMBER TAGS (USE COLORS)
21
22
23
21
22
REVERSED FRAME TAG INDICATES FRAME WAS TESTED
40s
40s
42s

Fig. 1—The control board consists of a board with a numbered peg for each spinning frame. Each peg is equipped with a colored tag indicating what yarn number or style is running and a metal tag to be used by the tester for identifying samples.

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*Present position: Associate Professor, Graduate School of Business Administration, Charlottesville, Va.

The Loomfixer And His Job

Part 27

A GOOD TAKE-UP ROLL COVERING, CORRECTLY APPLIED, WILL PREVENT A NUMBER OF COMMON CLOTH DEFECTS

By **WILMER WESTBROOK**

WHEN a loom produces cloth that contains thick places, slack selvages, pulled threads or regularly spaced cuts, bruises or other defects, the loomfixer should check the take-up roll as a likely culprit. Keeping good take-up roll covering correctly applied on each loom is an important factor in cloth quality. Several different types of take-up roll coverings are currently in use. Rubber covering is used on most of the low-roll types, while high-roll types use rubber, emery-coated fabric, steel fillet and sprayed-on metallic covering. In general, the kind of cloth being woven will determine the type of covering to be used.

In some mills the rolls are removed from the loom and covered at the shop. A number of advantages are provided by this method. It enables the mill to keep spare rolls on hand and to thereby cut loom downtime. The special equipment such as lathes, reels and tensioning devices in the shop usually result in a better and tighter covering for the roll. Covering the rolls in the shop also frees the loomfixer to devote more attention to his other duties.

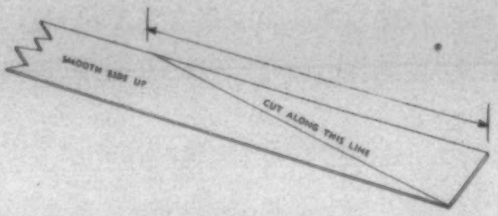
In the case of metallic-coated rolls, it is necessary to remove them from the loom and take them to the shop since this coating is applied by spraying molten metal onto the roll under high pressure.

Covering the roll on the loom also offers several advantages. It eliminates the work necessary to remove the roll and replace it, including the realigning of roll bearings. Loom downtime is reduced when the roll is covered on the loom—except in the case of coverings that require an adhesive. Also, the safety hazard is reduced since fewer people are included in the operation.

Recovering the roll as the loom is generally a simple task that requires only a short time to complete.

To re-cover the take-up roll on either a high or low-roll type take-up, first remove the pinion so the roll will revolve freely. Then strip off the old covering and clean the roll.

Measure the circumference of the roll. Unroll some of the new covering, smooth side up and with the end on your right, measure off a distance equal to the circumference of the take-up roll and make a mark on the upper edge of covering at this point. Place a straight-edge or yardstick on the covering and mark a line diagonally from the lower right corner to the mark previously made on the opposite edge. Cut the covering on this line.



The distance between the lines should be same as the circumference of the take-up roll that is to be re-covered.

Rubber and fabric-backed coverings require an adhesive if the cloth that is to be woven is of heavy construction or is woven under high tension. Quick drying glue, cement or shellac can be used for this purpose and should be spread evenly on the surface of the roll and permitted to become "tacky" before the covering is applied.

Start the covering at the right-hand side of the roll and attach with a tack or small nail. Turn the roll in the direction it will revolve when the loom is in operation and wrap the covering as tightly as possible. Put the edges of the covering close together but do not jam or overlap.

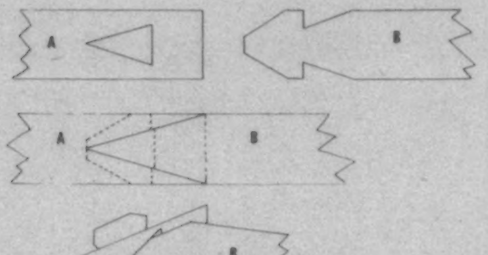
When the opposite end of the roll has been reached, cut the covering diagonally as at the start and attach to the roll with one tack or nail.

Don't use an adhesive with steel fillet. This type covering can be tightened by striking it at an angle with the end of a hammer handle or other wood object. The roll can be held stationary while it is being tightened by replacing the pinion.

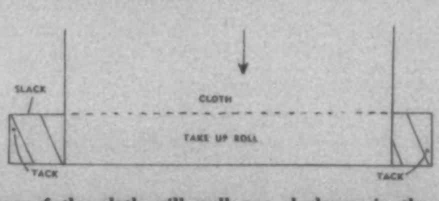
After the loom has been in operation for several hours the tension of the cloth will further tighten the fillet and the slack can be taken out by removing the tack or nail in the end of the fillet and repositioning it.

If steel fillet covering breaks, especially near the end, and it is otherwise in good condition, it can be easily spliced. Cut a triangular hole near the end of the covering that is to be left on the roll. Notch the end of the piece that is to be used for splicing and insert this end in the hole and press flat.

As a preventive maintenance measure, always inspect the take-up roll covering at warpout and see that the roll turns easily without binding at any point.



This shows one method of splicing steel fillet take-up roll covering.



The tension of the cloth will pull any slackness in the covering toward the end of the roll where it can be taken out by removing and repositioning the tack or nail.

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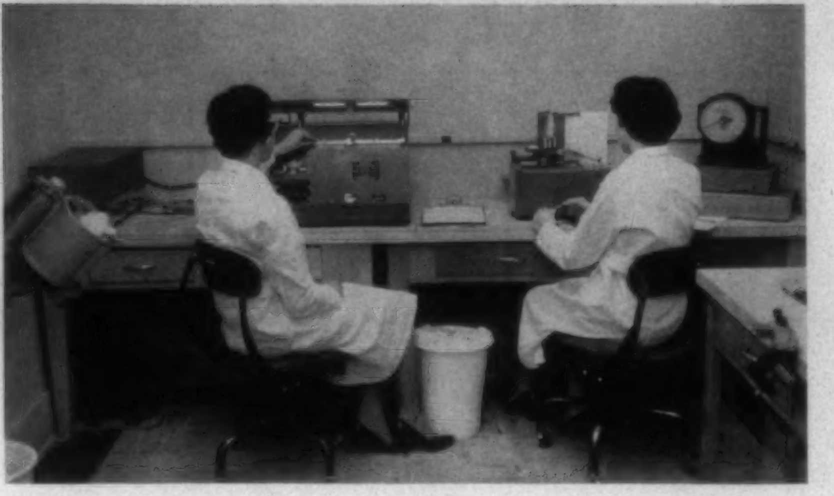


The Spinlab Fibrograph and Scott-Clemson strength tester are used to determine per cent short fibers and fiber strength, respectively. The Fibrosampler *(far left)* is a comparatively new device for preparing Fibrograph samples.

Kendall Completes New Cotton Laboratory

THIS NEW CHEMICAL AND PHYSICAL TESTING FACILITY WILL PROVIDE AN EXPANDED FIBER TESTING PROGRAM

THE Kendall Co.'s Textile Division has recently completed the construction of a cotton fiber chemical and physical testing laboratory in Newberry, S. C. The new facility is designed to provide the company with an expanded fiber testing program as well as reduced testing sample handling and shipping costs.

Other advantages in the new location are time savings because of streamlined testing operations, practicality of testing large numbers of samples, and closer communications between the laboratory and the cotton buying office, also located in Newberry.

Kendall's fiber testing operations were formerly conducted at the company's research laboratory in Paw Creek, N. C. Newberry was selected as the site for the new laboratory because of its accessibility to the company's South Carolina plants which are located in Newberry, Edgefield, Pelzer and Camden.

Basic Functions

The new facility has three basic functions:

(1) service-type testing for the cotton buying office;
(2) special fiber testing for the mills; and
(3) fiber research projects.

The construction of the new laboratory is by no means Kendall's entrance into the fiber testing field. To the contrary, the company has been involved in this type of work for over 25 years and is recognized as one of the leaders in the field.

Physical Testing

Physical tests conducted at the laboratory include fiber strength, fiber fineness, fiber length, fiber maturity, nepping tendency, and percent waste in fiber.

Fiber strength tests are made with the Scott-Clemson bundle tester. The fiber strength property is directly associated with yarn strength and plant running conditions, including ends-down in spinning and loom stops.

Fiber fineness is tested with Spinlab's Speedar. Speedar test results are converted to the Micronaire scale. Kendall looks specifically not only for the coarse cottons which don't process very well, but also for the fine cottons which have a high nepping tendency and cause imperfections in the yarn and uneven dyeing in the cloth.

Fiber length measurements are made on another of Spinlab's testing instruments, the Digital Fibrograph. Kendall has pioneered the use of the Digital Fibrograph as well as the Fibrosampler which is used in conjunction with the fiber

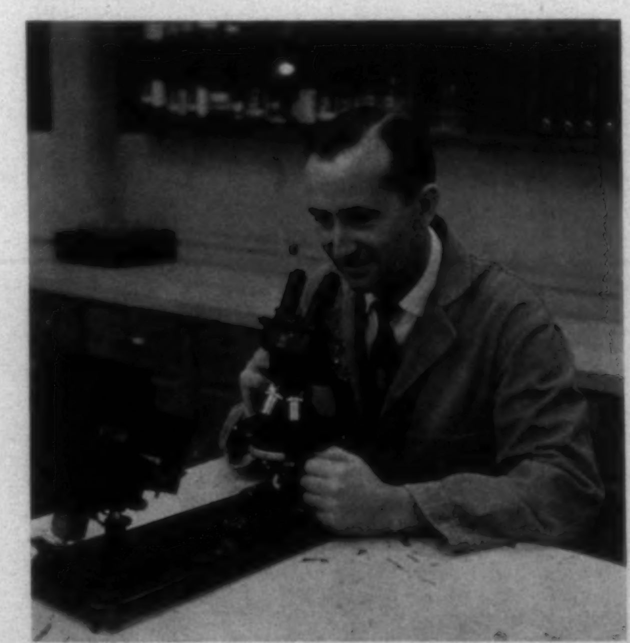
The Scott-Clemson tester plays an important part in testing cottons going into Kendall's wash-wear fabrics.

Kendall has pioneered in the operation of the Fibrosampler, a device used for preparation of Digital Fibrograph samples.

length tester. The Digital instrument measures the long part of the fiber distribution in addition to the short fiber content. Short fibers (one-half inch and less) have a great influence on running conditions. High short fiber content in the raw stock means more lint, fly and waste in processing. Other results of high short fiber content are more ends-down in spinning and a poorer quality yarn.

Fiber Maturity

Fiber maturity is determined in the new Kendall lab by using the Arealometer. The instrument may also be used to find the fiber fineness. Immature fibers cause difficulty in processing, more neps in yarn and cloth, difficulty in dyeing. The affinity for dyestuff of immature cotton fibers varies considerably from normal and this factor causes dye streaks or spots in the finished cloth.



Microscopic observations are made on cottons to determine presence of fiber damage—microbiological, chemical and physical—as well as fiber maturity.

The obvious reason for Kendall's use of the Nepotometer is for measuring the nepping tendency of fibers. A bonus use, however, is the determination of the types of trash present in the fibers. A Shirley Analyzer is used at the new laboratory for finding the percent trash present in the cotton.

Chemical Testing

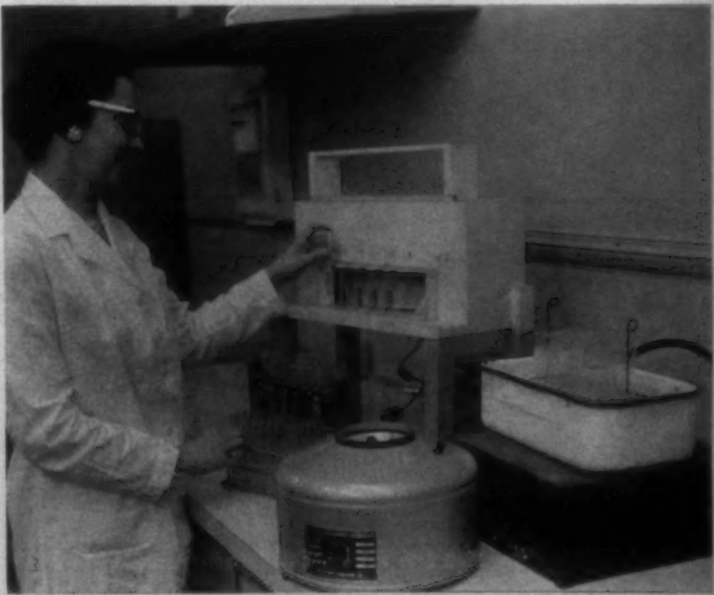
Various chemical tests conducted at the facility include those to indicate microbial damage, honeydew and presence of large or unusual quantities of wax, pectin and other non-cellulosic constituents. Microbial fiber damage which causes increased fly, waste and poorer running conditions is indicated by pH tests.

A special sugar test is used for honeydew cottons. Another sugar test determines the presence of any excessive amounts of natural sugars on the fibers. High sugar content can cause sticking to the various rolls and give great difficulty in all yarn preparatory processes.

The new Kendall laboratory is also equipped with an ultraviolet light, commonly known as black light. The black light readily shows certain types of microbial damage, especially "cat eye," and the presence of oil. Cat eye cottons fluoresce with brilliant greenish-yellow spots under the black light. The damage is caused by a micro-organism which grows on the fibers while in the field.

Three types of microscopes are available in the new laboratory. The instruments are used to determine the fiber size, maturity and possible mechanical and microbiological damage to the fiber. The laboratory also uses the microscope for making cross-sectional sections of the fiber for further study. Still another use for the instruments is in the field of identification of various types of fibers.

Head of the new laboratory is Leon D. Pryor, a graduate of the University of Tennessee with a Master's Degree in microbiology and chemistry. Pryor has been with The Kendall Co. for ten years and formerly was in charge of the fiber testing laboratory at the Paw Creek location of the company's research laboratory. The new laboratory, which remains a branch of the central research laboratory, is staffed with three technicians in addition to Pryor.



This centrifuge, heating unit and miscellaneous equipment is used in testing for cavitomic and honeydew cottons.

Glass Blocks For Window Sealing

IF YOU'RE PLANNING TO BRICK UP YOUR WINDOWS IT WILL PAY YOU TO CONSIDER THE USE OF GLASS

MORE stable humidity conditions and greater efficiency from its heating system have been effected by the Canton (Ga.) Cotton Mills through the use of glass blocks. The company sealed 467 window bays in its two plants with the glass block. In addition to improvement in the humidity condition in the spinning room, heat and temperature levels in the carding, spinning and weave rooms have been stabilized.

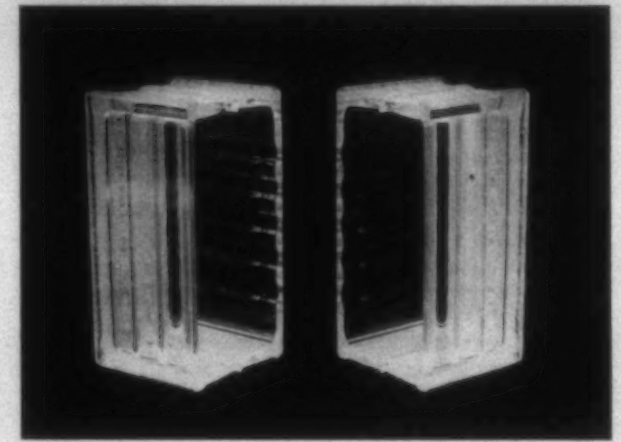
The insulating qualities of the block, said to equal that of 12-inch concrete, have made it possible to cut plant heating costs. Other advantages realized from the use of the blocks include greater employee comfort and improved appearance of the plant.

About 85% of the old windows in its two plants were replaced with Pittsburgh Corning Suntrol blocks. This type of block has a green fibrous glass screen sandwiched between the two halves of each block to diminish the glare of direct sunlight.

Eight-inch Suntrol Essex blocks, which diffuse light throughout the interior, are installed from the floor to eye level. Above the eye level, Suntrol Prism blocks are used. These blocks direct the light toward the ceiling. Each bay required approximately 92 blocks. Some four to nine clear glass blocks were installed at eye level in each bay to give an unobstructed view to the outside.

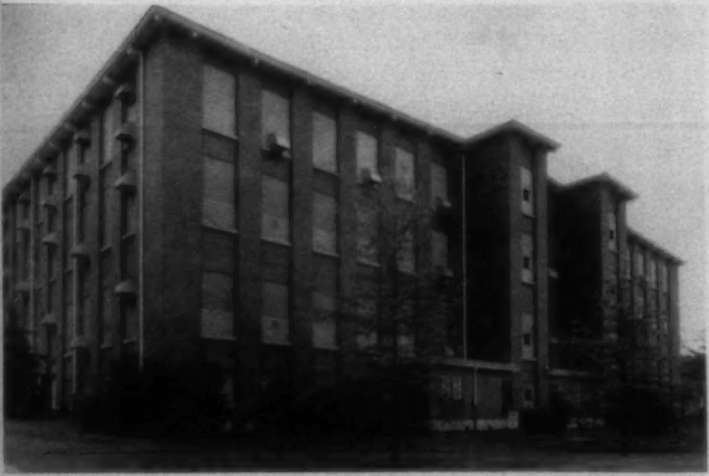
The company also used glass blocks for a 102-foot partition between two departments in one of the plants. The glass partition not only modernizes the appearance but provides a smooth surface to which lint will not cling. Mortar between the blocks was shellacked to assure over-all smoothness.

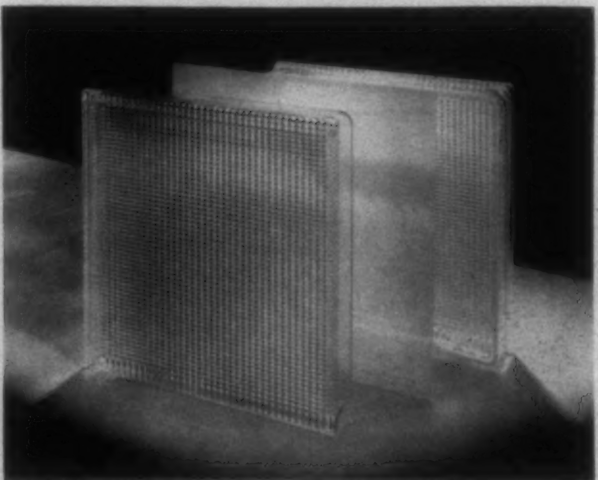
Glass blocks were first tried by the company in 1947 to improve illumination and temperature control in its basement laboratory. "That first installation was so satisfactory that it led us to our present program of eventual total replacement," said Charlie K. Cobb, vice-president and general superintendent of the mill.


Argus blocks, a decorative glass block with one fluted surface and one plain surface, were used by Canton for a partition between two departments in one of its plants.

Substantial savings in maintenance are also said to have resulted from the glass-block installation. With ordinary windows, the sash had to be painted every five years and reglazed every two to three years, and periodically replaced. The glass blocks require only periodic cleaning with compressed air and a dust mop and occasional painting of the concrete sills.

Despite the extensiveness of glass block replacement the mill had no down time at either plant. During the installation, bays were screened off with canvas stretched on wooden


The most obvious benefit to be gained from the use of glass block in bricking up windows is the improvement in the appearance of the plant. Some 352 window bays have been replaced at Plant No. 2 of Canton (Ga.) Coton Mills.


This exploded view shows the type of Suntrol block, with its glare-reducing green fibrous insert, that was used to block up the windows at Canton Cotton Mills.

frames. This reduced noise and held moisture and heat in the plant and, at the same time, prevented dust and debris from entering the working area.

The rigidity of the blocks has made the walls of the mills sounder structurally than they were before the installation. The company also expects them to add to the future life of the building since they provide solid walls, unbroken by non-supporting windows. In addition, moisture on the windows is now removed through drain pipes installed in the concrete sills.

Only one problem was encountered during the installation. It was discovered that bays in the weave room could not be blocked up completely one at a time because the vibration of the looms shook down the mortar in the upper layers of block before it could set.

The solution was to lay one row of blocks across eight or ten bays. By the time the first layer had been placed in the last bay, the mortar had sufficiently hardened in the first bay, and workmen could go ahead with a second row.

N. C. State School Of Textiles Announces Three Short Courses

The School of Textiles at North Carolina State College, Raleigh, N. C., recently announced three short courses to be offered during May and June 1961. The first of the sequence will be "Textile Course for the Furniture Industry" beginning May 2. This is a four-day course designed to acquaint personnel of the furniture industry with fabric testing and analysis methods, fiber properties and fabric constructions. It will be under the direction of Professor B. L. Whittier of the Department of Textile Technology.

"Statistical Quality Control for the Textile Industry" is a course in basic and advanced quality control and statistical techniques as applied to the textile industry. This two-week course begins on May 15 and is under the direction of Professor D. S. Hamby of the Department of Textile Technology.

Beginning on June 5, a two-week "Short Course for Executives of the Textile Industry," designed for executives desiring refresher work or for non-textile college graduates desiring an introduction to the technical aspects of textile technology. It will be under the direction of Professor E. B. Grover, head of the Department of Textile Technology and Professor R. E. Wiggins.

A.C.M.I. Will Hold Fiber Testing Discussion At Clemson Laboratory

Latest developments in cotton fiber testing will be discussed at Clemson College, Clemson, S. C., May 3-4 during the annual open house of the Fiber Testing Laboratory of the American Cotton Manufacturers Institute.

The two-day program will include presentation of technical papers and discussions of recent findings in cotton fiber testing, and demonstrations of new quality control instruments for the textile industry. All sessions of the program will be in the Clemson House, on the campus of Clemson College.

The event annually attracts about 200 persons, including representatives of textile organizations, cotton producers, machinery and equipment manufacturers, and others. Further information may be obtained from the A.C.M.I. Cotton Fiber Testing Laboratory, 123 Sirrine Building, Clemson College, Clemson, S. C.

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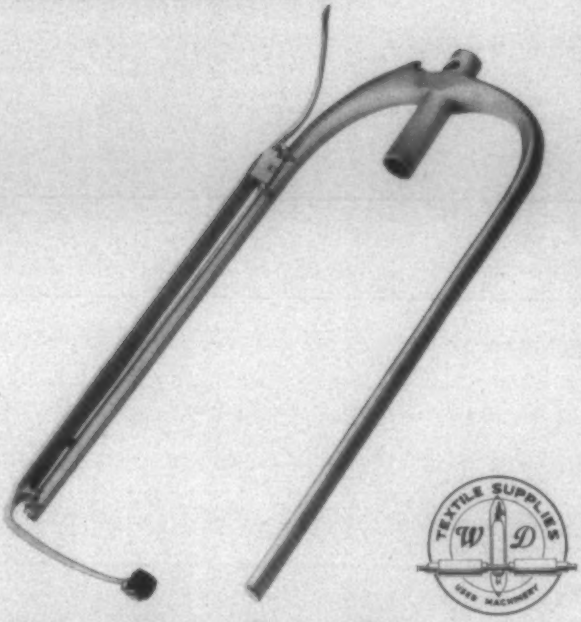

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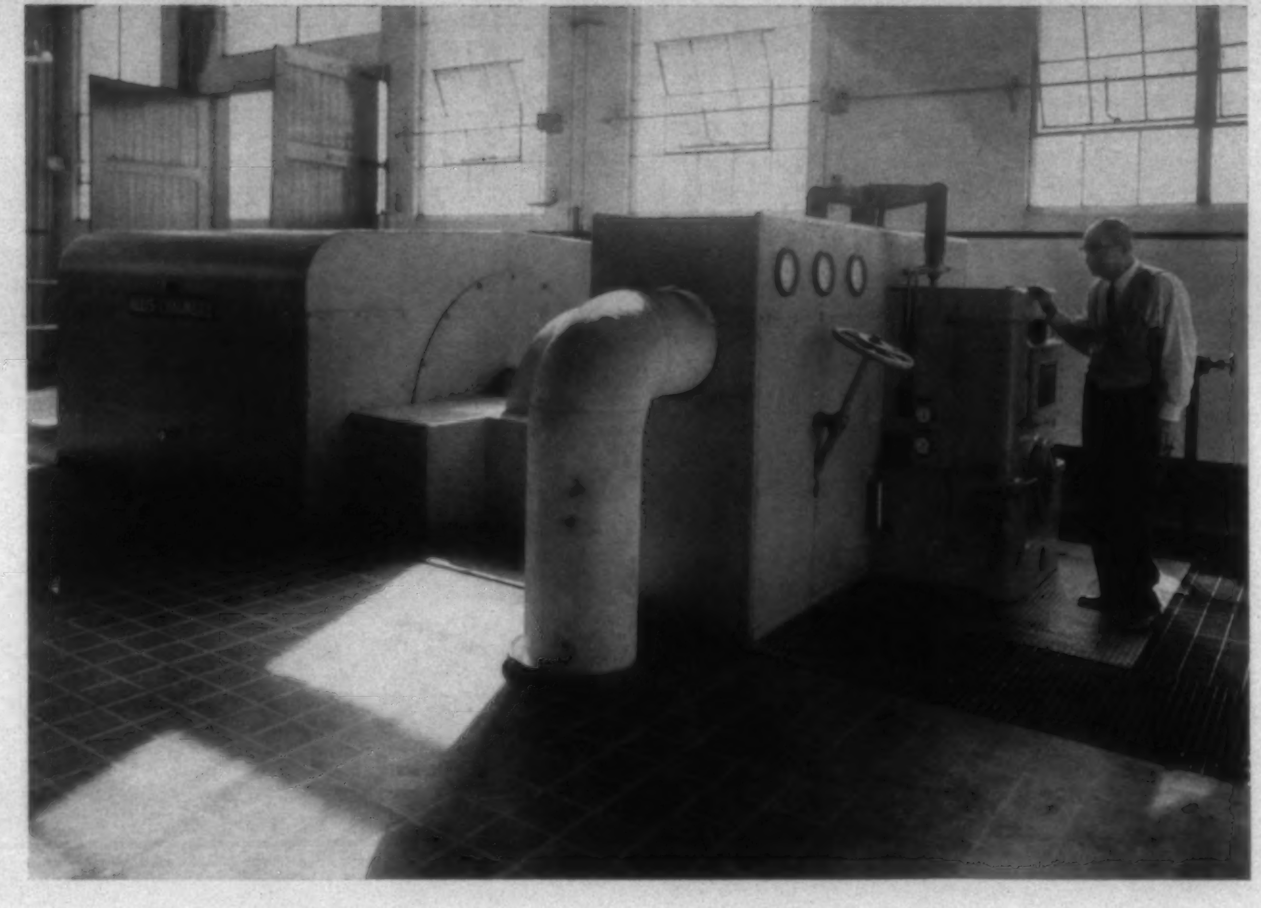

Electrical Power—Purchased Or Produced?

WITH electric power requirements growing more rapidly than process steam needs, each year industries have been purchasing larger and larger percentages of their electricity from nearby utilities.

There is, however, a corresponding increase in total kilowatt hours generated by industrial power stations. This trend is particularly prevalent in processing industries where the direct or indirect product can often be used as the energy source. Large users of process steam, including some textile mills, may find it economically desirable to generate their own power.

Whether to purchase or produce power involves a number of factors for determination by the individual firm. These include the location of the plant with relation to its outside power supply and its reliability; the flow, pressure and temperature of steam required for various processes; the balance between power and steam demands for all load conditions; space requirements; and the availability of skilled operating personnel.

For the plant capable of maintaining a satisfactory steam-power balance for producing all or a portion of its power, there is still the question of the most economical steam turbine-generator unit for the job.

Engineering studies of industrial power stations usually begin with a determination of process steam requirements and electric power demands. From these known values, a balance can be established that sets the most desirable capacity to be applied. Consequently, the initial pressure, temperature and quantity of steam required to meet the industrial demands form the basis for selecting throttle steam conditions, ratings and types of turbine and boiler conditions and the capability of the steam turbine-generator unit.

There are four basic types of steam turbines for applications in industrial power stations. Their choice depends on the process served, the amount of steam required, and the type or combination of types that will best serve a specific plant's demands. Briefly, these four basic types are as follows:

(1) Condensing turbines are used where maximum power from throttle flow is desired, where condenser circulating water is readily available, and where there is no need for process steam. Steam entering the turbine follows a single path through the controlling or governing valves, the power-producing nozzles and blades, and leaves the turbine's exhaust end at a pressure lower than atmospheric. High plant cycle efficiency can be obtained through use of extracted steam for feedwater heating.

Often straight condensing units operate in a waste heat cycle. Here steam is generated by waste heat from any of a variety of sources. System heat losses are greatly reduced because, after being used in the industrial process, the thermal energy is re-used by the boiler.

(2) Non-condensing turbines are installed where ex-

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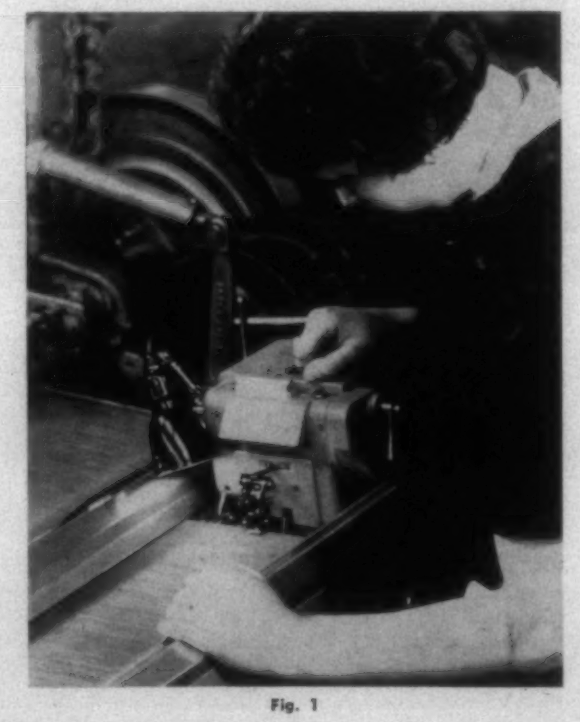

Fig. 1

TIES FROM LEASES OR FROM SHEETS
UP TO 600 KNOTS PER MINUTE

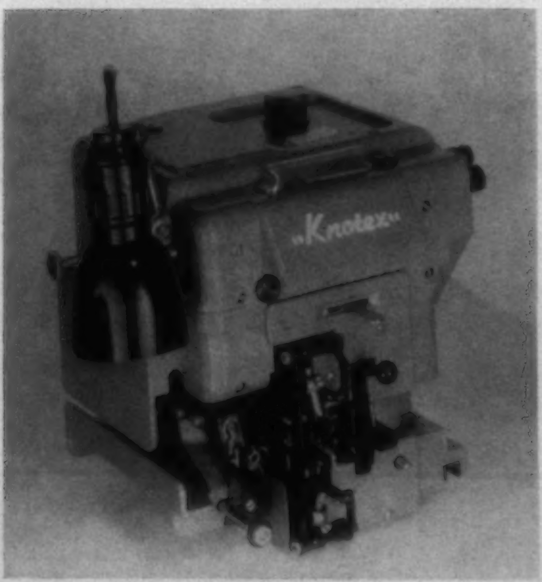

Fig. 2

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haust steam is used for a process. They operate as reducing valves, tying high pressure boilers to systems utilizing low pressure steam. Low-cost power is generated as a byproduct and at a high thermal efficiency, since the heat energy of the exhausted steam can be credited to the turbine.

Non-condensing turbines usually perform in parallel with other electric power sources and can operate with uncontrolled exhaust pressure or under back pressure control integrated with the governor. Uncontrolled operation is often regulated by a condensing automatic extraction turbine in parallel with a non-condensing machine. Typical applications are to supply large volumes of low pressure steam for industrial process plants. They are also designed to serve large heating systems and supply inlet steam to lower pressure turbines in a topping arrangement.

(3) Condensing automatic extraction machines combine the advantages of non-condensing and condensing units. In operation, partially expanded steam is automatically extracted at an intermediate point in the turbine to supply and process and/or to regulate flow and pressure of inlet steam to a non-condensing unit operating without back-pressure control. Up to the extraction point in the turbine, steam expands to process as in non-condensing machines. Beyond this stage, steam is further expanded to condenser pressure for additional power.

A valve gear located at the extraction point in the condensing automatic extraction turbine allows varying amounts of steam to be withdrawn at constant pressure while maintaining the balance between process steam and power demands. Grid or poppet-type extraction valves, depending on pressure of the bleed steam, are controlled by an extraction pressure regulator which is inter-connected with the turbine governor.

(4) Non-condensing automatic extraction turbines are used where the advantages of a non-condensing unit are desired for two steam pressures—high pressure by automatic extraction and low pressure from the exhaust. The use of pressure-reducing valves and desuperheaters is thus minimized where a wide range of process pressures is desired.

It would be difficult to arbitrarily relegate any one of the four basic turbine types to specific industries because of varying electrical and steam demands. Textile mills could conceivably employ any of the four types to advantage to meet conditions peculiar to their operations.

Where steam exhausted from the turbine cannot be used in the process, it must either be discharged to the atmosphere or to condensing equipment. Either method results in major heat losses and relatively low thermal efficiencies. Where exhaust steam can be used in the process, credit for its heat energy is charged to the turbine-generator unit, resulting in most efficient power production.

Georgia Textile Manufacturers Group Moves To New Quarters In Atlanta

The Georgia Textile Manufacturers Association has moved to new quarters in Atlanta. The new address for the association and for two affiliated organizations, the Georgia-Alabama Textile Traffic Association and the Textile Education Foundation, will be Suite 740, 34 Peachtree St., N.W., Atlanta, 3, Ga.

The new office is located in the recently constructed Bank of Georgia Building, a 30-story building overlooking Atlanta's downtown intersection, Five Points.

How To Specify Warper Drive Systems

A WARPER DRIVE SYSTEM MUST BE DESIGNED FOR THE PARTICULAR JOB IT IS TO PERFORM

By JOHN A. McCOIG[*]

I WOULD like to describe first the basic drive system we at Cocker Machine & Foundry Co. have used in our warpers for quite some time. We purchase from one of the drive manufacturers a standard drive which consists of the following items:

(1) d.c. motor 1,150 r.p.m. base speed with approximately 2-to-1 field weakening range

(2) a two-plate rheostat for the control of the motor field and the generator field

(3) a motor generator set supplied in a cabinet which also houses the control.

The controls include a line starter for the a.c. motor, a contactor for the d.c. bus with overload, resistors and the associated relays to give a jogging circuit, contactor and resistor to give a dynamic breaking function, and excitation panel to provide excitation for the motor and generator fields. In conjunction with this drive it is necessary that we build a control and furnish other components to give some regulation to the drive, and a stop motion circuit.

The regulating system that we use with this drive consists of a differential with two input shafts, one driven by the presser roll in relation to the actual surface speed of the presser roll. The other input shaft is turned by the pilot motor which gives a reference speed for the operating speed of the warper. Any differences in the speed of the shaft driven by the pilot motor and the speed of the shaft driven by the presser roll results in rotation of the output shaft which in turn rotates the rheostat adjusting the speed of the main drive motor. Our regulating system, as you can see, is based on speed and is much more sensitive than a system based on position.

Operational Sequence

Pressing the jog button completes a circuit to pick up the contactor in the d.c. bus which completes the armature circuit between the d.c. motor and the d.c. generator. The motor field is at full voltage across the excitation bus through the field rheostat plate which is at its slow speed position.

The generator field is excited at a low voltage from a voltage dividing network of resistors which may be adjusted to give a definite voltage output for jog or crawl speed for the yarn. The yarn speed during jogging operation will increase as the beam builds up.

As an example, if the jog speed is five yards per minute on a 12-inch barrel, it will be 15 y.p.m. on a 36-inch diameter beam. During this operation the pilot motor remains at rest.

The presser roll being turned by the yarn drives the input shaft on the differential and the output shaft turns in a direction to keep the main rheostat at the slow speed position through a slip clutch assembly. Since it is necessary to start a d.c. system at slow speed, we have electrically interlocked our starting circuit with a limit switch attached near the main rheostat to assure that it is in the slow speed position.

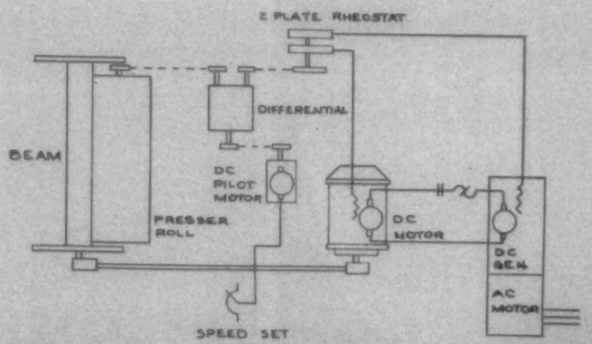
Pressing the start button again closes the loop contactor in the d.c. bus and also picks up the relay which transfers from the jogging circuit, to the rheostat circuit and starts the d.c. pilot motor which runs at a speed set by the speed setting rheostat mounted on the machine. The rotation of the pilot motor and its drive to the differential results in the output shaft of the differential advancing the main rheostat from its slow speed position.

As this rheostat advances, it increases the voltage output of the generator by strengthening the generator field. This field is raised from a low voltage up to approximately 230 volts in one-half the advancement of the rheostat. This will bring the motor up to its base speed. Further advancement of the rheostat does not increase the generator field voltage; however, the motor field is at 230 volts until the main rheostat reaches its half-way position and further advancement of the rheostat causes this field to be reduced from 230 volts for field weakening and higher speeds.

As the rheostat starts its advancement, the main drive d.c. motor starts out with a given speed and increases as the rheostat advances further. As the speed of the motor drives the beam, the beam in turn drives the presser roll which in turn drives the other input shaft of the differential and begins to slow down the output rotation of the differential and the advancement of the rheostat. The advancement proceeds until such time that the speed of the input shaft of the differential from the presser roll and the speed of the input shaft from the pilot motor reach the same speed, then there is no further output rotation and the rheostat has stopped at the pre-selected yarn speed.

As the yarn builds up on the beam and the beam being the driver member in relation to the presser roll, the presser roll is trying to turn faster since its diameter is constant. As the speed tends to increase, the results through the differential causes the output shaft to reverse and bring the main rheostat to a slower position. This action takes place throughout the building of the beam.

As mentioned before we must have a stop motion circuit



Cocker Machine & Foundry Co. has used this basic drive in its warpers for some time.

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[*] Electrical Engineer, Cocker Machine & Foundry Co., Gastonia, N. C. Presented at the Textile Electrical Conference of the American Association of Electrical Engineers, North Carolina State College, November 10-11.

and one of its purposes is to detect a broken end coming from the creel in order to stop the machine for this end to be repaired. There are also other features that are used on the machine to cause it to stop at prescribed limits such as the counter for desired yardage on the beam, failure of the pressure system applied to the presser roll and some of the other optional safety features. This is a low voltage circuit and all devices are wired to normally open contacts which, when closed, completes the circuit to a low voltage coil in a relay whose contacts interrupt the holding-in circuit. When the holding-in circuit is interrupted by one of several means—such as the stop button, safety bar, overloads tripping—all other relays required in the running circuit are dropped out removing power from the drive to the machine. At the same time the dynamic braking contactor completes a circuit across the armature of the d.c. motor through a small value resistor to apply dynamic braking to the drive motor.

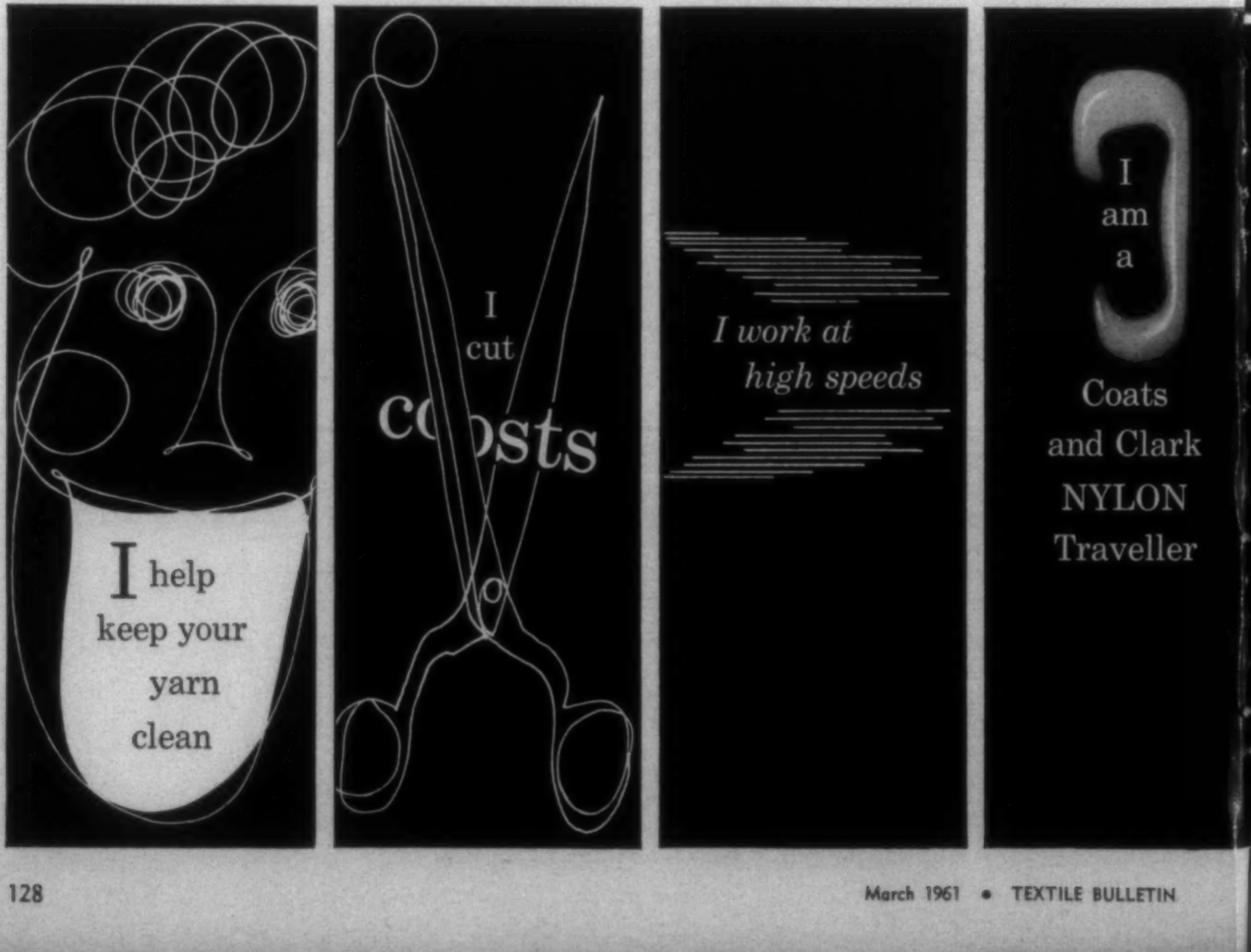
Another circuit is completed to the brakes on the machine and the pilot motor is reversed to drive through the differential and bring the main drive rheostat back to its slow speed position. The effectiveness of the dynamic braking circuit is greatest when the motor is turning at its higher speed and decreases as the motor slows down. This feature tied in with the magnetic disc brake which works in reverse to that, works together to give a smooth, fast stop. When the main motor rheostat reaches its slow speed position, it trips the limit switch stopping the pilot motor and restoring the circuit to start the machine again at slow speed.

Due to the instability of the d.c. pilot motor at its lower speeds, we keep the pilot motor geared in at its highest speeds and limit the speed range on this pilot motor approximately to a 3:1 range. This also limits the operating speed range of the warper to a 3:1 speed range on the yarn. For wider operating speed ranges we have used an a.c. motor driving a hydraulic transmission whose output speed can be varied over a greater range with good stability. Since the total range of the d.c. drive is fixed, an increase in the operating speed range gives a relative decrease in the amount of build-up that could be taken care of on the beam. This is our basic system and it offers many advantages due to the fact that drive deliveries are shorter, due to the standard system involved, and it is flexible because we can add variations for the average person to maintain.

D.C. Drive With A Tachometer Feedback Function

The power circuit in this drive is very similar to the power circuit in the drive just described. However, the speed control system varies greatly. Some manufacturers use an electronic controller for maintaining constant yarn speed and other drive manufacturers use the magnetic amplifier system. With both systems it is necessary for us to drive a tachometer generator from the machine in relation to the yarn speed at which the machine is running.

The tachometer generator would eliminate the use of the differential, the pilot motor and the main motor rheostat. The main drive motor field and the generator field are then controlled directly from the control means used in the drive. I would also like to point out that this system shifts the burden for keeping the machine running in a larger part from the mechanic to the electrician. In this drive, a speed setting potentiometer or rheostat mounted on the machine sets up a reference voltage for a given yarn speed to be compared with the output of the tachometer generator and any resulting difference is then


I help keep your yarn clean
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recognized by the controller and the motor or generator fields are adjusted accordingly. In the absence of the differential and pilot motor system this controller must also furnish a controlled acceleration circuit which is usually adjustable by a potentiometer setting.

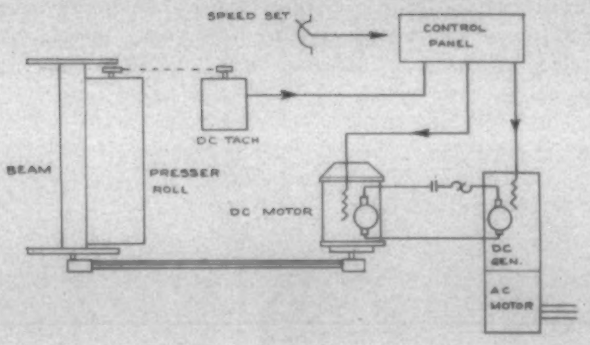
The delivery of this type drive is usually somewhat longer than the deliveries on the basic drives and in order to hold the delivery time as low as possible, we purchase as near a standard drive as possible and then add auxiliary control panels to give stop motion and brake circuits and other optional features as specified by the customer.

The Eddy Current Clutch Type Drive

Another type drive becoming more popular wih the customer is the Eddy current type drive. This drive, with the exception of the excitation for the clutch field, is an all a.c. type drive. It consists of a controller panel that provides excitation for the clutch and the necessary relays to give the functions for jogging, running and stopping the machine; an a.c. tach generator for the feedback signal; and the main drive unit.

The main drive unit is an a.c. motor integrally mounted on the Eddy current clutch. The latest clutch used is the stationary field type and requires no brushes or slip rings. The a.c. motor portion drives a shell type drum which rotates around the inner drum. The stationary winding field is also located around a portion of the internal drum which is attached to the output shaft.

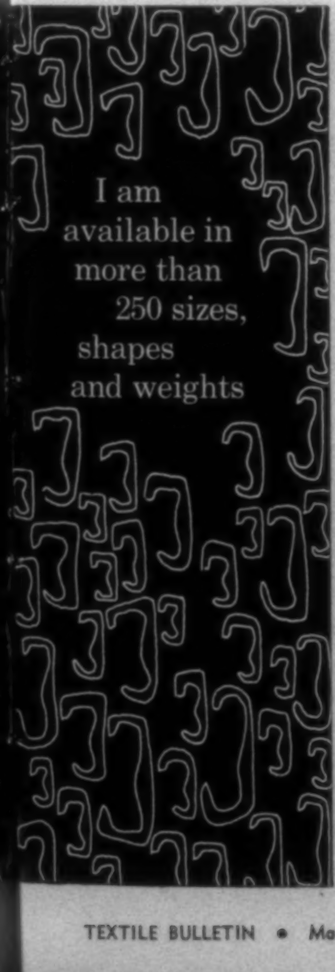
The variable speed feature of this drive is obtained by the slip between the two drums which is determined by the excitation placed on the field. The controller for this type drive must also provide a circuit for the acceleration on the drive; however it does not include a system for braking of the output shaft, and this feature must be compensated for by the addition of extra brakes on the machine.



The tachometer generator eliminates the use of the differential, pilot motor and main motor rheostat in this d.c. tachometer feedback drive.

A speed setting potentiometer mounted on the machine also sets up the reference voltage to give an output speed on the drive unit in relation to the yarn speed for the machine. The tachometer generator which is driven by the machine gives a feedback signal to reduce the output speed of the drive unit as the beam builds up in diameter. As the start button is pressed, the excitation panel excites the field windings of the clutch and ties the output shaft of the clutch to the rotational speed of the a.c. motor. This speed is brought up gradually by the acceleration circuit.

At the start of a beam the speed of the output shaft is very close to the speed of the a.c. motor driving unit for



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operating the machine at its highest gear in speed. As the beam builds up the tachometer generator signals the controller to gradually decrease the excitation on the clutch providing for greater slip and slower speed. With the absence of field weakening on this type drive, generally speaking, we supply a drive with a higher rating of horsepower for an equivalent load.

Horsepower Selection

Horsepower calculations for drives are based primarily on these items: (1) tensions applied to each end as holdback; (2) the maximum operating speed; (3) the speed range; (4) some constants based on windage and friction of the machine.

The amount of horsepower required by the yarn is figured by the formula force times distance over 33,000, the equivalent of one horsepower in the time rate system.

The force is made up by the number of grams applied on each end times the number of ends to be wound which must then be divided by the number of grams per pound, namely 454. The distance usually stated in yards per minute is converted to feet per minute. Let us assume that we have a problem to work out in horsepower and we have the following information given:

(1) Speed range of machine 3.3 to 1
(2) Top speed 1,000 y.p.m.
(3) Bottom operating speed 300 y.p.m.
(4) Beam build-up range 3:1
(5) The number of ends to be run 1,100
(6) Tension per end 45.4 grams.

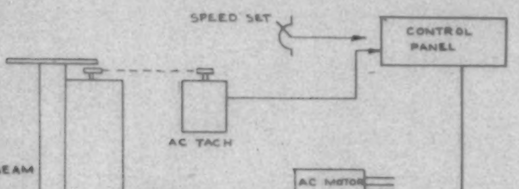
Following the formula as outlined above, we would have 45.4 over 454 times 1,100 over 33,000 times 3,000 would equal the horsepower required. The units across the top of this equation

$$\text{h.p.} = \frac{45.4 \text{ gms./end}}{454 \text{ gms./lb.}} \times \frac{1{,}100 \text{ ends}}{33{,}000 \text{ ft. lbs./min.}} \times 3{,}000 \text{ ft. min.}$$

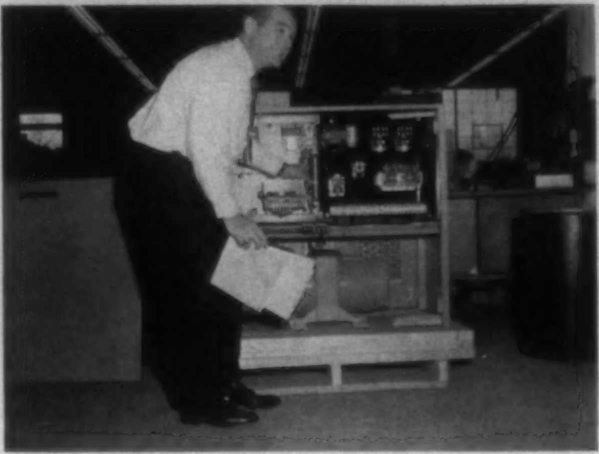
would be grams per end, times ends, times feet per minute. The units across the bottom of this equation would be grams per pound times foot pounds per minute. As you can see, our units cancel out, giving us the numerical value of 10.
of 10.

Another consideration must now be inserted as to the motor speed. If we use a motor with an 1,150 r.p.m. base speed and we gear this motor in at its field weakened speed of approximately 2,800 r.p.m. for 1,000 y.p.m., then as the beam builds up to its full diameter, which we have given before as a 3:1 build-up, we must divide 2,800 by 3 to find the motor speed when the beam is full. 2,800 divided by 3 would give 933 r.p.m. that the motor will be turning as the beam is filled up. Since this speed is below the base speed of the motor, we do not have 10 h.p. available with a 10 h.p. drive. Therefore the required amount of horsepower for tension as we have derived must equal 933 divided by 1,150 times X, our new horsepower for this job.

$$10 = \frac{933}{1{,}150}(X), \qquad (X) = \frac{11{,}500}{933} = 12.3 \text{ h.p.}$$



The Eddy Current type warper drive with the exception of the excitation of the clutch field is an all a.c. type drive.



John McCoig, electrical engineer for Cocker, describes the control system used by Cocker with its warper drives.

Working this problem through we see that this comes out to approximately 12.3 h.p. We would therefore select the 15 h.p. drive for this machine. This would allow horsepower for windage and friction in the machine. Since the horsepower requirement is proportional to the speed, we do not have to consider the lower operating speed in the horsepower calculations.

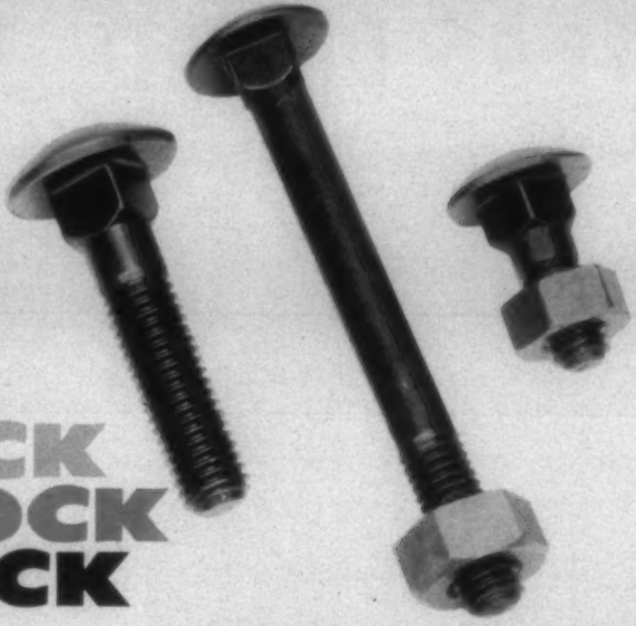
We have encountered many times customers who, with an eye on the future, specify speed ranges higher than they are using. This will lead to a good many problems in cases where tension figures are not given to us correctly. Frequently customers want to wind beams with higher tensions and lower speeds than when they originally made the specifications for the machine. It then becomes necessary for us to regear the machine nearer to the actual operating speed to provide the maximum pull for the tension desired on the yarn.

Horsepower recommendations are made to the customer on the information that we have on the material that he is to run. In the absence of this information, it becomes necessary at times to make horsepower recommendations on assumptions based on our past experience.

Troubles

All drives for warpers have instruction pamphlets to cover the operation of the drive, replacement parts, installation and trouble shooting information. A copy of this instruction pamphlet should always be placed in the hands of the people responsible for the maintenance of the machinery in order to cut down the amount of time required to find the troubles and be able to correct them according to the instructions. Each of the drives for the machines has its own characteristic troubles which relate to a certain portion of the drive itself. Therefore, in cases where the maintenance man is not able to locate and correct the trouble, he should take notes as to exactly how the machine is acting, what components are actually in operation and what components are not in operation at the time.

With this information at hand, the maintenance man then could call the particular drive manufacturer, and in many cases the trouble symptoms are readily recognized. The maintenance man can then be advised as to what components to look for to correct his troubles.



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Conference Of Mechanical Engineers Set For Clemson College, March 16-17

The textile engineering conference of the American Society of Mechanical Engineers will be held March 16-17 at Clemson College, Clemson, S. C. The conference will feature two technical sessions, to be held at 9:30 a.m. on Thursday and Friday. At the opening session Prof. T. D. Efland of the School of Textiles, Clemson College, will discuss "The Development and Potential of Nonwovens." A second feature of this session will be a discussion of nonwovens and their method of manufacture. Participating will be Prof. Efland; J. W. Powischill, Proctor & Swartz; James Hunter, J. E. Hunter Co.; Howard H. Langdon, Curlator Co.; Maurice A. Goldman, Fibre Products Laboratories; and R. D. Williams, Celanese Fibers Co.

The second technical session will feature the following presentations: "The Shuttleless Loom, A Review," A. E. McKenna, Clemson School of Textiles; "The Maxbo Shuttleless Loom," R. J. Farr, Edda International; "The Draper Shuttleless Loom," Donald Marshall, Draper Corp.; "Cotton—Mechanics of Ginning and Effects on Quality," J. A. Luscombe, U. S. Department of Agriculture; and "Cotton—Some Aspects of Quality as Related to Manufacturing," John E. Ross, U.S.D.A.

In addition to the technical sessions, those attending will be able to elect between two industrial tours on Thursday afternoon. One group will visit the Saco-Lowell Research and Development Center in Clemson and the Saco-Lowell Easley Plant and demonstration area. The other group will tour the Clemson School of Textiles and the U. S. Department of Agriculture pilot spinning plant and ginning laboratory.

The banquet will be held at 7 p.m. Thursday and will feature as speaker Robert L. Sumwalt, president of the University of South Carolina. A ladies program including architectural and other exhibits is planned for both days of the conference. Registration information may be obtained from Col. Marvin C. Ellison, 214 Strawberry Lane, Clemson, S. C.

Carolina Yarn Association Expands Membership Limit From 50 to 75

The membership of the Carolina Yarn Association, Lexington, N. C., will be increased from 50 to 75. The increase was approved at a special meeting held recently in Lexington. It will take care of applications of many years.

The association, which in recent years has entertained between 900 and 1,000 at its annual Spring outing, has had a long waiting list for some time. By reducing its associate membership list from 40 to 25, the overall membership was fixed at 100 by amendment of the bylaws at the recent meeting.

T.Q.C.A. Meets March 23-24 In Charlotte

The Spring meeting of the Textile Quality Control Association will be held March 23-24 at the Hotel Charlotte in Charlotte, N. C.

This meeting is designed to present, on an operating level, various quality control topics of current and widespread interest. The programs are planned to provide information on successful techniques of mill operation, maintenance of quality standards, and management methods.

Highlighting the meeting will be a discussion of the application of nuclear radiation to textiles by Dr. Henry Rutherford of the Textile Research Center, North Carolina State College.

Another high point will be afforded by Senator B. Everett Jordan's (D., N. C.) appearance as the after dinner speaker on Thursday evening.

The complete program:

Thursday, March 23

"Practical Application of Statistics in Textiles" by Dr. R. C. Hader, North Carolina State College, Raleigh, N. C.

"Quality Control in Warp Preparation" by W. B. Croxton, Glen Raven Cotton Mills, Burlington, N. C.

"Quality Control in Hosiery Manufacturing" by James McDonald, Research Center, Burlington Hosiery Co., Burlington, N. C.

"Waste Control In Relation to Quality Control" by William Ray, Southeastern Engineering Co., West Point, Ga.

Friday, March 24

"Consumers Viewpoint with Respect to Quality of Purchased Goods" by Paul Kaufman, M. Lowenstein & Sons, New York, N. Y.

"Quality Control in Dyeing and Finishing" by Walter T. Holliday, Riegel Textile Corp., Ware Shoals, S. C.

"The Fibrogram: Its Concept and Use in Measuring Cotton Fiber Length" by C. B. Landstreet, U.S.D.A. Spinning Laboratory, Knoxville, Tenn.

"Textiles and Nuclear Radiation" by Dr. Henry Rutherford, Textile Research Center, North Carolina State College, Raleigh, N. C.

Textile Research Institute To Hold 31st Annual Meeting March 16-17

Textile Research Institute will hold its 31st annual meeting on March 16-17, in the new Windsor Ballroom Suite of the Hotel Commodore, New York City. The technical program for this meeting will feature outstanding technical speakers plus an exhibit of instruments for scientific research, laboratory control and product testing.

Woolen, Worsted Fiber Consumption Down 11% In December From November

The weekly average rate of fiber consumption on the woolen and worsted systems in December was 11% below the November rate and 16% below that of December 1959, according to the Bureau of the Census. Production of man-made

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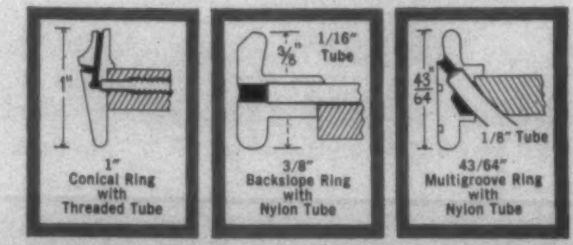

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fiber top from tow without combing is excluded from this calculation.

The weekly average raw wool consumption during December was 6,260 thousand pounds (scoured basis) or 9% below the rate in November, and 14% below the rate in December 1959. Consumption of apparel class wool was 12% below the November level and 15% below that of December of last year.

The rate of consumption of carpet class wool was 5% below the rate during the preceding month and 12% below the December 1959 rate.

For the year 1960, consumption on the woolen and worsted systems declined from 731 million pounds to 681 million pounds. Raw wool consumption in 1960 amounted to 404 million pounds, or 25 million pounds below the 1959 level. Consumption of carpet class wool in 1960 declined 8 million pounds from the previous year's total while apparel class wool consumption of 244 million pounds was 17 million pounds below the 1959 level.

Fibers Consumed on Woolen and Worsted Systems December 1960

(Thousands of Pounds—Scoured Basis for Greasy Wools)

Type of Fiber	Weekly Average Dec. 1960	Nov. 1960	Dec. 1959
ALL FIBERS, TOTAL	10,290	11,533	12,242
Raw wool	6,260	6,879	7,259
Apparel class	3,485	3,971	4,097
Woolen system	1,547	1,757	1,799
Worsted system	1,938	2,214	2,298
Carpet class	2,775	2,908	3,162
Noils, reprocessed and reused wool and other animal fibers	2,257	2,572	2,882
Man-made (synthetic) fibers for carpet and rug yarns	595	594	658
Other man-made (synthetic) fibers	941	1,192	1,150
All other fibers	237	296	293

Production Of Man-Made Fibers Shows Decline Of 4% In 1960 From 1959

Production of man-made fibers in the U. S. last year totalled 1,884,400,000 pounds, a decline of 4% from the all-time high level of 1,959,500,000 pounds produced in 1959, according to the *Textile Organon*, statistical bulletin of the Textile Economics Bureau Inc. In the latest year, output of all the cellulosic fibers declined, while production of the non-cellulosic and textile glass fibers increased.

Preliminary data on world production of rayon and acetate in 1960 indicates that global output was 5,690,000,000 pounds, an increase of 2% over the previous record production of 5,560,000,000 pounds turned out in 1959.

U. S. production of rayon and acetate last year totalled 1,028,500,000 pounds, a figure 12% under the 1959 total of 1,166,800,000 pounds. The output of acetate filament yarn at 228,200,000 pounds was off .5% compared with the prev-

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ious year, while acetate staple+tow at an estimated 60,000,000 pounds declined 14%.

Production of high tenacity rayon yarn last year totalling 279,300,000 pounds was 16% under the previous year and output of regular+intermediate tenacity rayon yarn at 147,000,000 pounds also was down 16%, while rayon staple at 314,000,000 pounds was off 12½%.

Non-cellulosic filament yarn+monofilament output in 1960, according to the *Organon,* amounted to 437,300,000 pounds, an increase of 6% over the 412,100,000 pounds in 1959. Non-cellulosic staple+tow last year came to 239,800,000 pounds or 3% over 1959. Textile glass fiber output of 178,800,000 pounds was 31,400,000 pounds or 21% more than that of 1959. All three of these fibers were at new all-time high production levels.

The *Organon* notes that U. S. consumption of rayon and acetate in 1960 amounted to 1,055,300,000 pounds, off 15½% from 1959. The consumption total last year was made up of producers' domestic shipments of 993,800,000 pounds, off 12½% from 1959, and cellulosic fiber imports for consumption at 61,500,000 pounds, off 48%.

In a breakdown of domestic producers' shipments by territories, the *Organon* points out that the Piedmont area consisting of North and South Carolina, Virginia and West Virginia, consumed the greatest quantity of cellulosic fibers in 1960, taking 212,400,000 pounds or 34% of the filament yarn total and 176,000,000 pounds, or 56% of all the rayon staple+tow shipped by U. S. producers.

U. S. producers' nylon shipments to the domestic market last year totalled 376,100,000 pounds, while acrylic+modacrylic staple+tow domestic shipments were 116,000,000 pounds. All other non-cellulosic man-made fiber shipments amounted to 116,400,000 pounds, bringing the total domestic non-cellulosic fiber shipments to 608,500,000 pounds or 4% more than 1959. Producers' exports of all non-cellulosic fibers at 58,500,000 pounds last year increased 38% over the 1959 total of 42,200,000 pounds.

Duke Personnel Conference Set

The 20th annual Southeastern Personnel Conference of Duke University in co-operation with Region 4 of the American Society for Personnel Administration will be held March 29-31 at the university. Theme of the conference will be "Optimum Utilization of Trained Personnel." Definite details of the meeting have not been announced.

$10 Million Cotton Research Program Announced By National Cotton Council

A producer-financed program, which over a five-year period has a potential of an additional $10 million for cotton research and promotion, was announced recently at the 23rd annual meeting of the National Cotton Council, in Memphis, Tenn. Boswell Stevens, Macon, Miss., chairman of a special producer committee, revealed details of the program at the meeting's opening session.

He said funds for the Cotton Producers Institute of the National Cotton Council would be earmarked only for research and promotion on a grant, contract or co-operative basis and projects would be designated by producers.

The institute provides a mechanism for farmers to give support to such programs—over and above that now possible under the council's finance plan—and will utilize the concept, framework, and staff of the council. Its policies and procedures were developed by the producer committee and ap-

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proved by the council's board of directors.

The schedule calls for implementation in California, Arizona, New Mexico, Oklahoma, and West Texas in 1961; other Texas areas and the Mid-South in 1962; and the Southeast in 1963.

Outgoing council president J. Craig Smith, Sylacauga, Ala., in the convention keynote address, cautioned against "prejudging" the Kennedy Administration's possible action on cotton.

He said he has seen no evidence that it might take actions that might roll back the clock to the day when "drastic production controls and high price supports had pushed cotton to the edge of disaster."

Wise administration is the key to the success of the present law, he stressed, noting it had been backed strongly by producers and that it provides wide leeway in decisions on price supports, adequate cotton carryover, and acreage allotments. J. Clyde Wilson, Phoenix, was elected to succeed Mr. Smith who automatically became chairman of the council's board.

Dr. M. K. Horne, chief economist for the council, pointed out that cotton's situation is quite different from that of agricultural commodities that are in great surplus. He said the industry in the past five years has sold seven million more bales of cotton than it has produced and the carryover is still headed downward. World stocks have declined, gains of rayon have been virtually halted overseas, and there has been little increase in foreign cotton production.

While the rise of exports has been significant in the strong upward surge in consumption, domestic offtake has declined mainly as a result of an increasing flow of textile imports.

Other reports stressed progress through research to lower costs and improve the quality of cotton and its products, and through promotion at home and overseas.

Senator Harry F. Byrd of Virginia, in an address on Tuesday, stressed the need for fiscal integrity. He declared that "arrogant labor leaders, deficit financing, federal paternalism, and the Warren court are subverting the nation's system, attitudes, and will for freedom."

Delegates also heard Rudolph Bannow, Bridgeport, Conn., chairman of the board of the National Association of Manufacturers, declare that there is no need to compromise with inflation in order to have economic growth and that we must establish confidence in the economy and determine what our future course will be.

Delegates approved recommendations providing for continuation of research and promotional projects and reaffirmed policies established formerly. One recommendation asked that the council present to the new Secretary of Agriculture and

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his staff its complete economic analysis of the cotton situation to assist them in making their price support determination for 1961.

Textile Applications Of Electrical Equipment To Be Discussed By A.I.E.E.

Its annual conference on electrical applications for the textile industry has been set for May 4-5 at the Heart of Atlanta Motel by the American Institute of Electrical Engineers. The tentative program calls for the presentation of more than a dozen papers dealing with various textile industry electrical applications.

The opening presentation will be in the form of a new products symposium. Participating will be W. S. Hines of Westinghouse Electric Co., who will discuss the Guardister thermister motor protection; R. R. Prechter of the General Electric Co. who will discuss Thermo-Tector motor protection and Stato-Trol silicon controlled rectifier drives; and a representative of the Allis-Chalmers Co.

Other speakers and their topics are: R. T. Campbell, Louis Allis Co., "Synchro Regulators for Speed and Draw Control"; J. R. Torrence, Dan River Mills, "Methods in Locating System Grounds"; J. L. Richardson, Minneapolis-Honeywell Co., "Fundamentals of Digital Computors"; J. H. Reynolds, Celanese Fiber Co., "Textile Applications of Digital Computors"; Swaffield Cowan, Factory Insurance Association, "Report of Standards Panel"; Ray E. Parker, General Electric, "Final Report of Surface Temperature Study"; and E. W. Davis of the Du Pont Co., "Application of Non Excited Synchronous Motors."

A second symposium will deal with the characteristics of non excited synchronous motors. B. R. Becker of Louis Allis will discuss the reluctance type; C. D. Beck of General Electric will discuss the permanent magnet type; and C. G. Helmick of Westinghouse will discuss the hysteresis type.

1960 Imports Of Cotton Yarns Soar

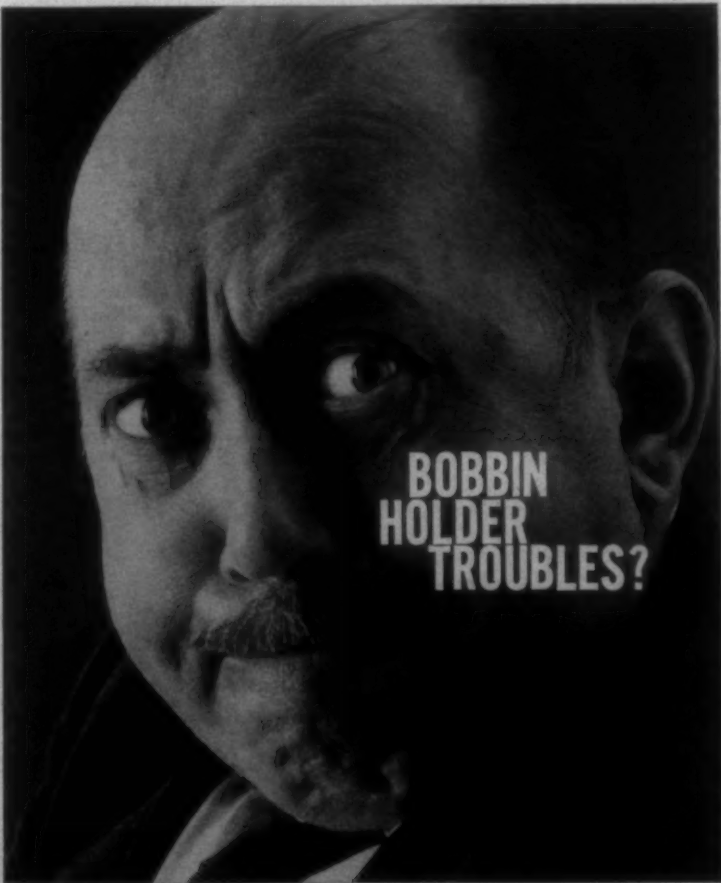
Imports of cotton yarns into the U. S. in 1960 soared to new heights, according to Department of Commerce statistics recently released. Cotton yarn imports in the first two months of the year eclipsed the total for all of 1959. In all, some 15.1 million pounds of yarn valued at $7.4 million were imported in 1960 as compared with 1.3 million pounds in 1959 and 711,009 pounds in 1958.

Almost half of the total volume, 7.4 million pounds, was contributed by Portugal. Spain, Egypt and Brazil followed with a combined total of more than 6 million pounds. Department of Commerce statistics list import totals for immediate consumption, or for entry into bonded warehouses.

U.S.D.A. Develops Device To Speed The Measuring Of Wool Fiber Sections

The U. S. Department of Agriculture has announced the development of a new electronic device to speed measurement of the fineness of wool-fiber sections, an important standard in estimating the relative quality of fleeces.

The new tool arranges fibers in parallel so they can be measured more easily and faster than by present methods. It aligns fiber sections mounted in oil before they are measur-



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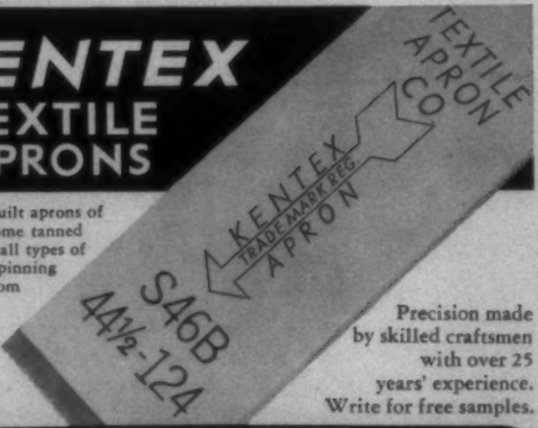

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Morrow, Goree, Mebane, Upham

CHATTANOOGA YARN ASSOCIATION—Newly elected officers of the Chattanooga Yarn Association met recently to draw up plans for the group's 36th annual outing coming up next Fall. The group included Hugh Morrow of Comer-Avondale Mills, assistant secretary-treasurer; W. Marshall Goree of Textiles Incorporated, vice-president; Robert J. Mebane Jr. of Leon-Ferenbach Inc., president; and Herbert D. Upham of Walter T. Forbes Co., secretary-treasurer. The outing is scheduled for Thursday and Friday, September 21-22, at the Read House in Chattanooga.

ed indirectly under a microprojector—an electric-lamp projector used to produce an image larger than the actual fibers.

By aligning the fibers, the unit enables the measurement of the projected fibers with a wedge scale. Previously, it was necessary to turn the wedge scale constantly in order to get an accurate reading of fibers mounted at random on a slide.

The device consists of three main elements: (1) a chassis containing a high voltage transformer, a sample chamber, and an indicating lamp; (2) a slide holder to keep the slide and mounting medium from touching the bottom of the sample chamber; and (3) a cover plate to protect the operator from high voltage.

The new instrument is also believed to have possibilities for use in aligning other kinds of fibers for measurement.

Piedmont Section, A.A.T.C.C. Plans Final Split Into Three Sections

Members of the Piedmont Section of the American Association of Textile Chemists & Colorists will make arangements for completing the division of the Piedmont Section into three, more unified sections at the Spring meeting to be held

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in Durham, April 21.

The South Carolina Section of the A.A.T.C.C. was formed from the Piedmont Section at Greenville, S. C., January 28. The remaining 850 members will split into the Piedmont and Northern North Carolina Sections at the Fall meeting in September.

West Point Mfg. Co. Organizes New Department For Internal Liaison

A new department has been organized by West Point Mfg. Co. at its headquarters in West Point, Ga., to serve an internal liaison between sales and manufacturing in all matters relating to production, inventory control, quality control, and fabric development, according to J. L. Lanier, president.

The new function, called the Production Department, comes under direction of Joe L. Jennings, executive vice-president in charge of manufacturing, and is located in the company's general office building.

Duskin

Stanfield

Approximately 28 people are being employed by the department, which includes a converting section and a greige planning section. Organization of the new department coincides with the transfer of the production-planning function now located at Wellington Sears Co., West Point's wholly-owned sales subsidiary, to the parent company's general office building, which was accomplished recently.

John Dewitt Duskin Jr., formerly associated with the company in West Point and Columbus, Ga., is manager of the new department. Prior to this assignment Duskin served as assistant vice-president of Wellington Sears Co.'s mill department in New York City.

Harold C. Stanfield, former office manager of Lanett Bleachery & Dye Works and manager of the West Point Co.'s Converting Department, will be assistant manager of the new production department.

Young Belgium Designer, A Very Modest Fellow, Seeks Position In This Country

The BULLETIN's February mail bag contained the following inquiry:

Dear Sirs:

Considered as Belgium's best textile designer (woven dobby and jacquard), diplomaed textile engineer, 34 years old. I should be very thankful if you could give me some information about the possibility to find a working field in the U. S. cotton textile industry.

I am of course ready to send references and full details by the first demand. In the meantime I remain, dear Sirs,

Yours faithfully,
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Leon Moore (above, left), one of 12 Du Pont textile bleaching representatives, discusses a new Du Pont bleaching process . . .

Here's how Du Pont experience improve product quality

Du Pont technical representatives can bring years of practical textile mill experience to bear on your bleaching operations—and often will suggest ways you can cut costs or improve efficiency. For example, take Leon Moore (pictured above, left), one of Du Pont's twelve highly qualified bleaching specialists. He can help you maintain your processes at peak operating efficiency and also show you how one of Du Pont's new cost-cutting processes can economically fit into your present operation.

If it looks as though a continuous or semi-continuous system may solve your bleaching problems, Leon might suggest *Rapid Bleach*, the process that lowers cloth storage time to 8 minutes in each J-box, improves dyeing quality and eliminates rubmarks, bruises and creases.

If you bleach by a multi-stage, high-speed system, he can explain the advantages of *Solo-Matic* bleaching. This single-stage process can double your production in the same space, using present equipment—is currently performing satisfactorily in many mills.

Perhaps you're interested in kiers or package systems. Then Leon could tell you about *Pressure Bleach*, which cuts process time up to 50%, and doubles your production in the same space, using your present equipment.

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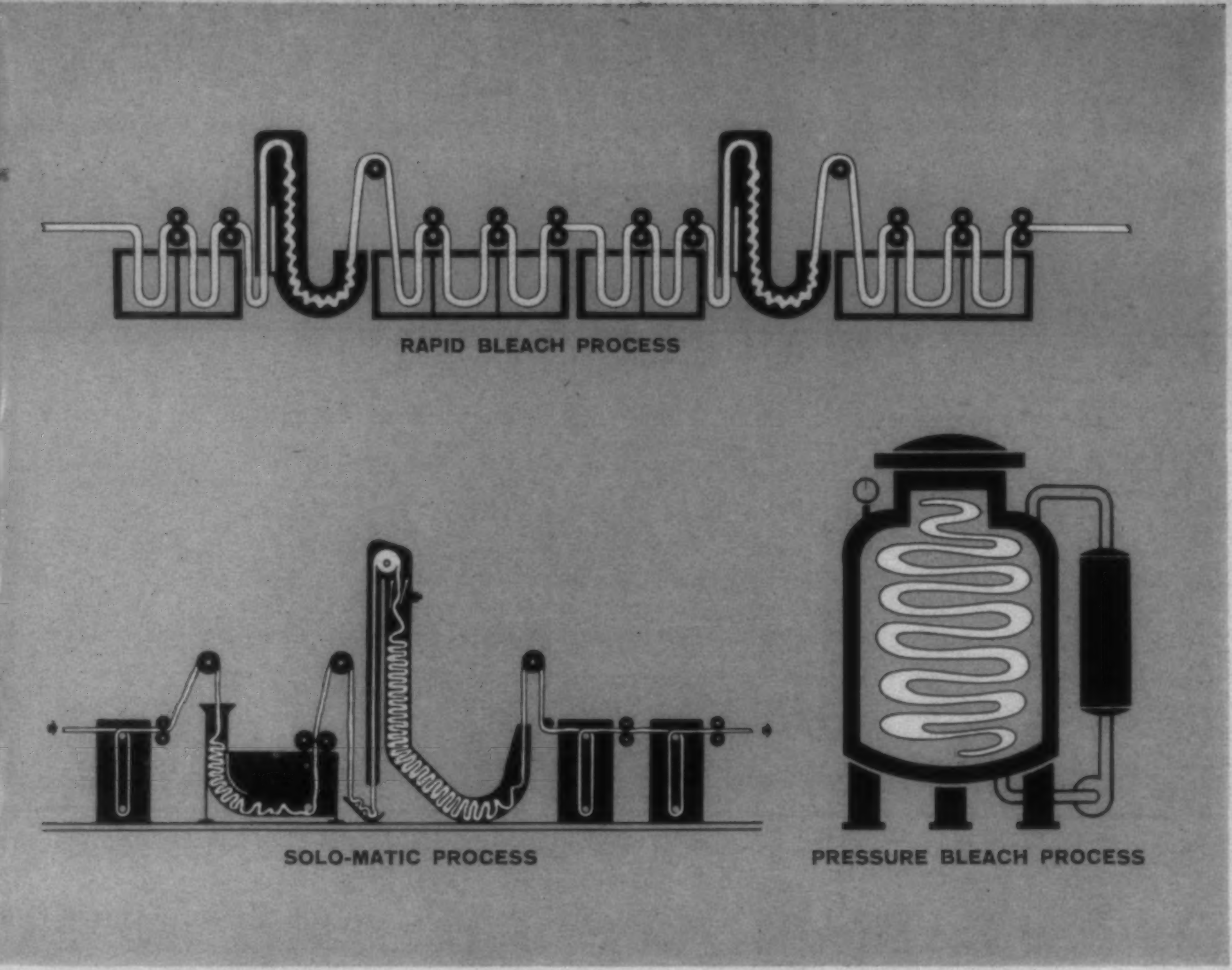

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PERSONAL NEWS

C. N. Painter, general manager of industrial operations for Armstrong Cork Co., Lancaster, Pa., since 1952, has been named senior vice-president and a member of the president's office. Painter joined Armstrong in 1924, serving in various sales capacities with the company's floor division until being named to head both the floor and industrial divisions in 1952. Succeeding him in that post is James H. Binns, formerly floor division general sales manager. Binns has been with Armstrong since 1935 in the floor division. In addition to succeeding Painter, he has also been named a vice-president.

Painter

Binns

Leon Tigler, former chief chemist of Eagle & Phenix division, Reeves Bros. Inc., Columbus, Ga., has been promoted to the post of technical superintendent, working directly under the plant manager. Tigler was recently elected vice-chairman of the Southeastern Section, A.A.T.C.C., at its annual meeting in Atlanta.

Ralph Gillespie has been promoted to assistant plant manager of Gayley Mills Corp., Marietta, S. C. Gillespie attended the University of South Carolina and began his textile career at the Excelsior Mills at Clemson. He joined the Gayley organization in 1960 as product manager of Clemson Fabrics.

Coker

C. W. Coker has been named as president of Sonoco Products Co., Hartsville, S. C., succeeding James L. Coker III who died recently. Coker began work with Sonoco in 1930 in the production department. He was elected vice-president in 1950. He is the grandson of Sonoco's founder, Major James Lide Coker. His father, Charles W. Coker, served as Sonoco's president from 1918 to 1931.

Tommy D. Greer, manager of the industrial products division of Texize Chemicals Inc., Greenville, S. C., has been elected a vice-president of the company. Greer joined the firm as a salesman with the consumer products division in 1951 and in 1957 was named manager of the industrial products division on its formation as a unit of the company. Under his direction, the division has grown to more than 40 products and a sales force that covers nine states.

W. J. Raab has been appointed supervisor of the intermediates section of the industrial chemicals department of the Shell Chemicals Co., New York City. He has been with Shell for approximately 20 years. . . . R. C. Witman has been transferred from the technical services laboratory and made a senior technologist in product development at the main office. He has been responsible for developments in cloth preparation, durable anti-static finishes for synthetic fabrics and new finishes which will give improved wash-and-wear characteristics to cotton fabrics.

Hamby

Dame S. Hamby, professor at the North Carolina State College School of Textiles, Raleigh, N. C., has received the award for distinguished service to the Textile and Needle Trades Division of the American Society For Quality Control for 1961. Professor Hamby was cited for his untiring efforts in stimulating interest in quality control among textile men.

D. R. LaFar Jr. has been awarded the Gaston County Brotherhood Award for 1961. LaFar is the president of the LaFar group of mills that includes Harden Mfg. Co., Gastonia, N. C. The award was sponsored by the National Conference of Christians & Jews and is awarded on the basis of spiritual and secular activities in the business world.

A. V. Caporossi has been named to the newly created post of general sales manager for Morrison Machine Co., Paterson, N. J. He will co-ordinate all of the domestic and foreign sales efforts for the firm. Caporossi will also do promotional work in the textile finishing field. Prior to his promotion, he was a sales representative in the Middle Atlantic states.

Tom C. Campbell has been appointed vice-president of Davidson-Kennedy Co., Atlanta, Ga., and also president of Manufacturers Products Co., a wholly-owned subsidiary. Campbell is a graduate of Georgia Tech and the West Point Academy. In his new capacity, he will direct sales for Davidson-Kennedy. Campbell is a member of the American Society of Mechanical Engineers, National Society of Professional Engineers and various other organizations.

Kuniholm

David A. Kuniholm has been appointed manager of the textile machinery division of the Rodney Hunt Machine Co., Orange, Mass. Kuniholm has served as manager of the firm's industrial roll division since 1951. He will continue to hold this post in addition to his new assignment. A graduate of Worcester Polytechnic Institute, he has been with Rodney Hunt for 15 years.

Paul A. Johnston, budget director for Burlington Industries, has been appointed executive assistant to Secretary of Commerce Luther Hodges. Johnston will be in charge of the administrative functions of the department. He has also served as director of administration for the state of North Carolina.

Thomas E. Fitzgerald Jr. has been named a vice-president of William Iselin & Co. Inc., New York City. Fitzgerald, who has been on the Iselin staff since 1954, has specialized in the handling of the company's textile accounts in Georgia, Alabama, the Carolinas, Tennessee and Virginia and will continue to associate himself with the firm's Southern operations. He was formerly personnel manager of Mandeville Mills, Carrollton, Ga.

R. C. Stewart has been named superintendent of Craftspun Yarns Inc., Kings Mountain, N. C. He succeeds Harold J. Phillips, who resigned to accept a position as purchaser of raw materials for Southern Yarn Sales Co., Anderson, S. C. Stewart was formerly superintendent with the Lineberger chain of mills in Belmont, N. C.

Charles W. Weisel has been named company accountant for Southern Machinery Co., Greenville, S. C. Keisel was in the accounting and cost control division of J. P. Stevens & Co. for nine years, and more recently was with Stone Mfg. Co. as head of the methods and systems department. He is a graduate of Drexel Institute of Technology with a degree in business administration.

Francis M. Buresh, consulting engineer, and Mrs. Buresh have gone to Finland to start the manufacturing of non-woven fabrics for Ab Avatex Oy, a new plant in Hammarland, Aland. Most of the equipment, valued at approximatetly $200,000, was engineered by Buresh and imported from the U. S. Buresh recently completed a round-the-world trip which included visits to mills in Europe, India and Australia.

John Gammon has been promoted to sales manager of the industrial division of Nopco Chemical Co., Newark, N. J. Gamon has been with the company for 30 years. Since 1951, he has been serving as Southern sales manager with headquarters in Cedartown, Ga.

L. H. Jordan, formerly manager of the Albertville, Ala., plant of the Kendall Co., Charlotte, N. C., has been named manager of the firm's Oakland plant at Newberry, S. C., succeeding D. O. Carpenter, who retired at the end of the year.

W. H. Ballenger has been promoted to the position of production superintendent of the McCormick (S. C.) Mill. He has been production superintendent of the Johnston Mill since last December. W. J. Allen, formerly worsted spinning and roving overseer at the McCormick plant, has been named to succeed Ballenger.

Jerry L. Ayers has been named assistant to the purchasing agent of Union Bleachery of Cone Mills' finishing division, Greenville, S. C. Ayers joined the company in February.

Cox

Clyde D. Cox has been promoted to superintendent of the Walhalla, S. C., division of Chicopee Mfg. Corp. He will be responsible for supervision and operation of all production departments. Cox is a graduate of Clemson College and came with Chicopee in 1946, serving as a supervisory trainee. In 1957, he became weave room foreman and in 1958 was promoted to assistant superintendent.

A memorial to the late Stephen I. Rudo has been set up in the form of a seat in Philharmonic Hall. The seat will be inscribed with "In memory of Stephen I. Rudo." Mr. Rudo was director of research and development of Werner Textile Consultants in New York City. A fund of $1,000 was taken up under the direction of his successor, Thomas E. Stribling Jr.

Capt. James Harry Campbell has been elected executive secretary of the Combed Yarn Spinners Association, Gastonia, N. C. Campbell, who recently retired from the Navy, is a graduate of the U. S. Naval Academy with a B. S. in engineering. He attended Northwestern University and the University of South Carolina.

Frank M. Soling of the American Viscose Corp., Philadelphia, Pa., has been elected president of the Curtain & Drapery Club of New York Inc., succeeding Donald Merideth of John Wolf Textiles Inc., who has resigned. Soling is the corporation's representative in the merchandising and product development department. He is a graduate of the School of Textiles, N. C. State College.

W. C. (Bill) Privette has joined Hartford Fibres Co., New York City, as dyeing and finishing service manager for Zantrel polynosic rayon fiber. He is responsible for technical service in the area of wet processing, dyeing and finishing of Zantrel and Zantrel blend fabrics, covering woven, knitted, industrial and nonwoven types. He was formerly plant superintendent of American & Efird Mills, finishing division, Mount Holly, N. C. He is a graduate of the New Bedford Institute of Textiles and Technology.

John T. Dunlavy has joined the fiber marketing department of Allied Chemical Corp., New York City. Dunlavy will be responsible for product information and publicity for Allied's Caprolan nylon products. Before joining the fiber marketing staff, he was director of public relations for the Army and Air Force exchange service.

Three employees of Callaway Mills Co., LaGrange, Ga., recently received awards for 25 years of service. They are J. Philip Cleaveland, plant manager at the Unity Plant; W. P. (Pete) Slaughter, overseer of dyeing and finishing at the Elm City Plant; and Jake Brown, slasher tender at the Manchester Plant.

Robert G. Lautensack has been named manager of the Columbia, S. C., plant of Allied Chemical's National Aniline Division. In this newly created position, Lautensack will be responsible for all manufacturing activities connected with fine denier fibers to be made at the Columbia plant, which is now under construction. He joined Alled Chemical in 1940 as a control chemist with National Aniline Division in Buffalo, N. Y. He has been associated with Allied's fiber projects since 1952. He has served as manager of the Chesterfield, Va., fiber plant since February 1960.

Alan R. Kimbell has been promoted to assistant manager of the Atlanta, Ga., branch office of the A. E. Staley Mfg. Co., Decatur, Ill. Kimbell joined Staley in 1955 as an industrial sales trainee. He was assigned to the company's St. Louis branch office in 1956.

Flurah A. Head has been named assistant superintendent of the Goodyear Tire & Rubber Co. plant, Cartersville, Ga. A graduate of Auburn, he has served in the Rockmart and other Georgia plants, as well as in the company's plant in Decatur, Ala.

Robbins

Hubert H. Robbins has been appointed as sales engineer by the Cotton-McCauley & Co. of Pawtucket, R. I., to cover the Georgia, Alabama, Tennessee, Mississippi and Texas territory, representing the products manufactured by Machine Craft Inc., and the Bijur Lubricating Corp. Robbins is a graduate of Georgia Tech, and has worked for Opp and Micolas Cotton Mills, Alabama Mills Co., West Boylston Mfg. Co. and Russell Mfg. Co. Later he was superintendent and manager of mills in Cuba, Mexico, Puerto Rico and Colombia. During the past eight years he has been active in textile mill consulting and sales agent throughout Colombia and othert parts of Latin America. He will continue to be technical vice-president of the Cotton-McCauley Co.'s Latin America activity.

David H. Seagraves has been named head of the labor standards department of Chicopee Mfg. Corp.'s Athens, Ga., plant. Seagraves joined Chicopee in 1955 and became an industrial engineer in 1959. He is a member of Phi Psi, the honorary textile fraternity. . . . Marvin B. Doster has been named personnel manager of the Athens plant. Doster has been head of the plant's labor standards department since 1958. He joined Chicopee in 1956 as an industrial engineer. Chicopee is the textile manufacturing affiliate of Johnson & Johnson.

J. Woodward Hubbard and William F. Lowell Jr. have been named vice-presidents of Saco-Lowell Shops. Hubbard was named vice-president of textile machinery sales while Lowell was named vice-president, international division.

W. Lindsay Wylie has been appointed to the newly created post of manager of product development and technical service for knitting and tufting yarns in the textile division of U. S. Rubber Co., New York City. Wylie joined the rubber company in 1951 and is a graduate of Clemson College. His most recent

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appointment has been that of technical service supervisor in the knitting yarns section of the division. Prior to that he was technical supervisor of the division's No. 2 mill at Winnsboro, S. C.

Kelly

J. Clyde Kelly has been named sales engineer by Southern Machinery Co. of Greenville, S. C. Formerly sales manager of Fletcher Industries of Statesville, N. C., Kelly will be responsible for Southern's North Carolina and Virginia territories. He will reside in Greensboro, N. C. Kelly has served also as senior sales engineer for Parks-Cramer Co. of Charlotte and as sales manager of Textile Specialty Co. of Greensboro.

Aaron Taylor, general manager of Union and Buffalo Mills, Union, S. C., was severely burned recently in an unsuccessful attempt to save his wife when fire destroyed their home in Union. Taylor was reported to be in satisfactory condition at a Union hospital.

Arthur B. Borden, former president of Borden Mills, Kingsport, Tenn., is serving as a consultant on weaving at Deering Milliken Service Corp., Spartanburg, S. C. The Borden plant was acquired by J. P. Stevens & Co. in 1959.

Harry E. Arthur has been named to the textile research laboratories staff at Texas Tech. Arthur was previously connected with Anderson, Clayton & Co. doing fiber and spinning research work in Japan.

Harry L. Spillman has been named assistant manager of the cost control section of Erwin Mills Inc., Durham, N. C. Spillman joined Erwin in 1956 following his graduation from Duke University.

Dr. Fritz Prakke has been appointed general manager of the new nylon division of the American Enka Corp., Enka, N. C. Dr. Prakke, manufacturing vice-president since 1957, will continue to serve in that capacity. He is also a member of the company's executive committee and board of directors. . . .

Prakke

Ramsey

Claude S. Ramsey Jr. has been named general manager of the new rayon division of Enka. He was formerly director of market development and rayon staple sales, and has held several administrative posts since joining the firm in 1950. Both of these divisions are to function as separate businesses.

David Getaz, manager of Renfrew Bleachery's planning office in Travelers Rest, S. C., has retired. Getaz joined the company in 1938 after working for nine years at Union Bleachery, Greenville, S. C. Earlier he was with Southern Bleachery & Print Works in Taylors, S. C., and Lanett (Ala.) Bleachery & Dye Works. Hunter S. Howard succeeds Getaz. Howard was formerly assistant manager.

George H. Roderick, retiring Assistant Secretary of the Army, is joining J. P. Stevens & Co., New York City, in an executive capacity. He will be associated with the financial department of the company. Roderick was chairman of the board of the Panama Canal Co. for nearly seven years, was a member of President Eisenhower's Inter-Agency Committee for Water Resources and a member of the Air Co-ordinating Committee for four years. He has also taken an active role in the promotion of advanced management practices in all of the military services. In 1960, Roderick was awarded a decoration for distinguished civilian service by the Army.

New officers have been elected for Saco-Lowell Shops by Maremont Automotive Products Inc., which now holds controlling interest in Saco-Lowell. The officers and their posts are: Arnold H. Maremont, chairman of the executive committee; Howard E. Wolfson, chairman of the board of directors; Jerome M. Comar, vice-chairman of the board of directors; W. Frank Lowell, president; Russell A. Graham, executive vice-president for engineering; John P. Buck, executive vice-president for manu-

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facturing; Henry Ishizuka, executive vice-president in charge of finance and treasurer; J. Theodore Wolfson, vice-president; James P. W. Davidson, vice-president for non-textile sales; Robert M. Jones, vice-president for research and development; Royden Walters, vice-president for manufacturing, textile division; Chester C. Levine, secretary; Bernard Nath, assistant secretary; Milton Shapiro, controller; Donald W. Philbrick, clerk; and David F. Edwards, honorary chairman of the board of directors.

Charles Williams and Virgil Dominick have been added to the staff of engineers at Riegel Textile Corp.'s Trion Division. Williams was named special projects engineer while Dominick was named senior engineer in methods and standards in the greige mill. Williams was formerly associated with the Armstrong Tire & Rubber Co. as an industrial engineer. Dominick, a graduate of Clemson College with a degree in textile engineering, was previously associated with Burlington Industries.

Brownell Bryant has been named production control manager of the Rockford Textile Mills, McMinnville, Tenn. Bryant will be responsible for the direction and scheduling of all products of the company as well as the control of inventories. He served in the production control department of Peerless Woolen Mills of Rossville, Ga., for several years and in the central planning division on production scheduling.

James E. Crutchfield has been named a salesman in the Charlotte, N. C., district sales office of American Viscose Corp.'s fibers division. Crutchfield's appointment comes after a training period in the textile research laboratories at Marcus Hook, Pa., and the sales headquarters in New York City. He is a 1960 graduate of North Carolina State College with a B.S. degree in textiles.

OBITUARIES

James Lide Coker III, 56, president of Sonoco Products Co., Hartford, S. C., died February 15 in Presbyterian Hospital in New York. A native of Hartsville, he was educated at Woodberry Forest and the University of North Carolina, received his Masters Degree in business administration at Harvard in 1928, and was awarded the honorary degree of Doctor of Industries by Clemson College in 1958. In 1928 he joined Sonoco as assistant treasurer and became president on the death of his father in 1931.

Duncan H. Dewar Jr., 39, president and treasurer of the B. S. Roy & Son Co., Jersey City, N. J., died of a heart attack recently while on a business trip in Germany. He was named president of the company in 1955, succeeding his father. Mr. Dewar attended Bowdoin College. Survivors include his widow.

Edward E. (Ned) Ford, 49, Marshall & Williams Corp. sales engineer, died January 29 following a heart attack. He was a 1933 graduate of Georgia Tech. For many years, Mr. Ford was an engineer with Fulton Bag & Cotton Mills in Atlanta, Ga., and became associated with Marshall & Williams, Greenville, S. C., as sales engineer in 1952. Surviving are his widow and two sons.

Campbell Deane Garrett, 60, director and vice-president of J. P. Stevens & Co., died February 2 in Manhassett, N. Y. Mr. Garrett joined Stevens in 1945, following his separation from the Army as a Colonel in the Quartermaster Corps. In January of 1947, he was named a vice-president and head of merchandising and sales for the cotton division. He was a director of the Association of Cotton Textile Merchants of New York, and a director of Thomaston (Ga.) Cotton Mills. Mr. Garrett is survived by his widow.

Ernest G. Glaesel, 69, retired president and chairman of the board of Schwarzenbach Huber Co., New York, died February 8, at his home in Clifton, N. J. At the time of his death, Mr. Glaesel was engaged in the real estate business. His widow and two daughters survive.

William S. Nutter, 82, developer of the original Palm Beach cloth in 1906, died January 24 in Sanford, Me. Mr. Nutter resigned in 1948 at the age of 70 after almost 60 years with Goodall enterprises. He joined the Goodall Worsted Co. in 1891 and served as vice-president for 27 years. Besides the Palm Beach cloth that was a mixture of mohair and cotton, Mr. Nutter was also responsible for the pyroxylin backing and weave of Seamloc Carpet and rubberized pile fabric. He is survived by his widow.

James Thomas Phillips, 67, former owner of Buck Creek Cotton Mills, Siluria, Ala., died recently. Mr. Phillips retired about a year ago. He was also a former State Senator. Survivors include his widow and a son.

George Norman Winder, 63, vice-president of Woolens and Worsteds of America Inc., New York City, died February 20 of a heart ailment following an illness of several weeks. Mr. Winder, a past president of the same organization, was recognized as perhaps the most influential and prominent figure in the industry. Last year he received the Golden Fleece Achievement Award from the National Association of Wool Manufacturers. Mr. Winder was active in the Colorado Wool Growers Association and the National Wool Growers Association. He is survived by his widow and three children.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

NEW YORK, N. Y.—Riegel Textile Corp. reports net profit before taxes of $600,226 for the sixteen weeks ended January 21 as compared with $1.6 million in the comparable period of 1960. Sales for the period were $23 million as compared with $28.4 million in 1959. In its report to stockholders the company reports that the short-term outlook for textiles is not encouraging. Its backlog of unfilled orders is at a very low level and prices and profit margins of many of its lines are depressed. This is said to be particularly true of the printed fabrics in which the company specializes. However, the company said that the medium-term outlook is more promising with retail sales remaining at a relatively high rate, despite the general softening of the economy.

WHITINSVILLE, MASS.—Whitin Machine Works reports that it has received orders for its spinning and drawing equipment from three Southern mills. Henderson (N. C.) Cotton Mills ordered 11 Model N spinning frames with 252 spindles, 3¾" gauge, equipped with 45° roll stands, Casablancas GX2 cradles and the STA top arm suspension system. The Eva Jane Plant of Avondale Mills, Sylacauga, Ala., has purchased ten Model M6A Even-Draft drawing frames totalling 40 deliveries. Three Model M6A Even-Draft drawing frames totalling 12 deliveries, were ordered by the Warren Division of the Graniteville Co., Warrenville, S. C.

NEW YORK, N. Y.—Sales and earnings of Beaunit Mills Inc. were off in the third quarter of the current fiscal year ended December 31. Sales for the quarter were $26.6 million as compared with $31.1 million in the comparable quarter of the previous year. Net profit in the latest quarter was $634,031 against $1.5 million last year. For the nine months to December 31, sales totalled $80.9 million as compared with $93.6 million in the first nine months of the previous fiscal year. Earnings in the first three quarters were $2.6 against $5.2 million last year.

GREENSBORO, N. C.—Burlington Industries Inc. has announced a 46.8% decline in net profits for the first fiscal quarter ended December 31, while sales were reported to be 7.1% lower. Net profit was $6 million on sales of $214.3 million for the quarter against $11.1 million on sales of $230.7 million in the same period a year earlier. The company noted that for comparative purposes, consolidated net sales, net earnings and per share results for the comparable period a year earlier, the three months to Jan. 2, 1960, have been adjusted to include retroactively the results of James Lees & Sons Co.

UNION, S. C. — Monarch Mills has announced a program of matching contributions of its employees to private educational institutions. The company will match employee contributions, up to $1,000 per employee, to any qualified privately-supported college, university or secondary school in the United States in a move to spur donations to America's private educational institutions. The plan covers all eligible employees of Monarch's three textile plants and two subsidiary companies, the Jonesville Products Co., Jonesville, and Lockhart Power Co. Two of the mills are located here and one in nearby Lockhart, all in Union County. The Monarch operations employ a total of approximately 2,200 persons.

UNION, S. C.—Net profit of Monarch Mills and its majority-owned subsidiary, Jonesville Products Co., rose 35.7% to $1.3 million for the 1960 fiscal year as compared with $913,511 for the same period in 1959. No sales were disclosed. Total current assets at the end of the fiscal year were $13.4 million against $12.3 million in 1959. Total liabilities were $2.5 million against $2.2 million in 1959. Inventories for the organization were $9.2 million compared with $7.4 million at the close of the 1959 fiscal year.

NEW YORK, N. Y.—Consolidated net income of Indian Head Mills Inc. amounted to $3.6 million on sales of $81.9 million in the fiscal year ending December 3, 1960, as compared with a $3.5 million profit on sales of $56.1 million for the previous year. Net operating profit before non-recurring items and taxes, climbed 25% to $3.3 million from the $2.6 million in 1959. The growth of sales and operating earning power was due to the acquisition of four additional textile businesses during the year, the company reported.

AUGUSTA, GA.—The John P. King Mfg. Co. has reported earnings of $531,959 on total sales of $12.7 million for the 1960 fiscal year. Business prospects for the next six months are not as good as last year but they are expected to improve, according to Cassius Clay Jr., vice-president of the company. At the annual stockholders meeting, Landon Thomas and directors were re-elected to their respective positions following an 18 months battle for control of the company with a group of dissenting stockholders.

BELMONT, N. C.—Aberfoyle Mfg. Co. has purchased its Belmont mercerizing plant which had been operated under a long-term lease for the past 35 years. The company will also build a modern dyehouse in connection with the plant, which will house the latest and most modern dyeing machinery. The houses in the plant village here will be sold to employees.

GASTONIA, N. C.—Parkdale Mills Inc. has purchased the Whittington Mfg. Co., Kings Mountain, N. C., for the sum of $70,000. No definite plans have been made to operate the plant. However, the new owners have cleared the railroad spur and the warehouse for the immediate storage of cotton. The property includes a tract of about 6.5 acres with buildings providing approximately 86,000 square feet. The Whittington plant has been idle for the past seven years.

KNOXVILLE, TENN.—E. T. Barwick Mills Inc. has purchased the Jefferson Woolen Mills here and will modernize and expand the operation, as well as increase employment. Jefferson Mills, which had been closed for some time, was reopened last year with some 75 employees by B. H. Erkine and Walter Ransburg. The name will remain the same and operations for the present will retain the present workers. The plant may be used either for producing rugs and carpets such as the Dalton, Ga., plant or for production of raw materials for the Georgia mills.

BELTON, S. C.—Blair Mills has an order for delivery on May 1 of 22 new C-7 Crompton & Knowles looms. The new looms will replace 24 regular dobby looms.

ATLANTA, GA. — Fulton Industries Inc. achieved a record $2.2 million in net earnings after taxes, for the fiscal year ended November 26, 1960. This represents $1.49 per share on present outstanding common stock after a stock split of six for one, approved on September 15, 1960. Stockholders, equity reached $13.9 million in 1960 compared with $11.1 million in 1959. Fulton Industries' consolidated 1960 sales for its five companies totaled approximately $52 million. The five firms are: Fulton Cotton Mills, Atlanta; Continental Gin Co., Birmingham, Ala.; Precision Castings Co., Cleveland, Ohio; Ainsworth Mfg. Co., Detroit, Mich.; and American Buildings Co., Columbus, Ga.

BOSTON, MASS.—Both sales and earnings for the Kendall Co. in 1960 held close to the 1959 high levels, according to President Richard R. Higgins. The 1960 sales of $111.6 million represent an increase over the 1959 sales of $110.7 million; and 1960 earnings of $5.1 million compare closely with the 1959 earnings total of $5.2 million. The Kendall Co. manufactures surgical dressings, woven and nonwoven fabrics, elastic stockings and pressure-sensitive tapes.

WYTHEVILLE, VA.—Narrow Fabric Co. of Reading, Pa., has acquired a new plant here. The facility is a modern, single-story structure which offers excellent possibilities for future expansion, the company reports. Narrow Fabric will use the plant for braiding operations, transferring existing braid manufacturing from Athens, Ga., to the new location. The move is expected to be completed in March. In addition to offering better facilities for expansion of Narrow Fabric's manufacturing operations, the Wytheville plant is more centrally located to the Southern garment industry and will enable the company to provide faster and more direct service to its customers in the South, it reports.

PACOLET, S. C.—Pacolet Mfg. Co. reports net income of $1.9 million in the fiscal year ended November 27 as compared with $1.4 million in the previous year. The company had total current assets of $23.7 million as compared with $22.4 million in the previous year. Total current liabilities were $3.8 million as compared with $3.7 million in 1959.

HOLYOKE, MASS. — William Skinner & Sons has received an offer from Indian Head Mills Inc. to buy all outstanding shares of Skinner stock. C. O. Wood, group vice-president of Indian Head Mills, has stated that in the event of the acceptance of their offer, Indian Head Mills plans to maintain the identity of the business as William Skinner & Sons, continuing both the sales operation and the Holyoke plant.

NEW YORK, N. Y.—Davis & Catterall has charged Cone Mills Inc. and others with conspiring to destroy the firm's piece goods business and is asking for total damages of $2 million in a court suit filed February 14. The suit was brought against Cone Mills, John Wolf Textiles Inc. and three former employees of Davis & Catteral. The former em-

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ployees are Sidney Warner, a former vice-president; Bernard Harlam, a former sales manager; and Stuart Alstadt, a former assistant to the company's president. The individual defendants are charged with removing and appropriating patterns, styles, samples and customer lists while still employed by Davis & Catterall, and turning them over to the corporate defendants.

GREENVILLE, S. C.—Southern Weaving Co. reported a net profit of $84,664 for the 1960 fiscal year against a loss of $6,025 for the fiscal year in 1959. Total current assets are listed as $2.2 million compared with assets of $1.5 million last year. The 1960 report shows earned surplus increased from $750,021 to $819,686.

LAURENS, S. C.—Laurens Mills reports a net loss of $365,139 for the fiscal year ended November 27, 1960, less special credit of $107,166. The special credit represents nonrecurring gain on sales of machinery and equipment. Earned surplus as of November 27 was $5.3 million as compared to $5.9 million at the end of 1959. Total current assets for 1960 were reported at $4.8 million compared to $5.3 million in 1959. Total current liabilities for 1960 were $483,123 as compared with $797,410 in the previous year. Sales are not reported. Officials report that the mill is reducing its woven goods production by two-thirds and is expanding into the knitted goods field.

GREENSBORO, N. C.—Sales and earnings of Cone Mills Corp. for the year ended December 31 declined from 1959 results. Earnings for 1960 were $3.7 million on sales of $188.5 million as compared with earnings of $5.3 million on sales of $190.3 million in 1959. Income before taxes was $7.7 million as compared with $10.5 million in the previous year.

DANVILLE, VA.—Net operating earnings of Dan River Mills for the year ended December 31, 1960, were the highest in more than a decade, and on a per share basis, were the best since 1951, according to W. J. Erwin, president. Operating earnings in 1960 amounted to $7.3 million, in comparison with earnings of $7.1 million in 1959 when special credits of $1.3 million brought total earnings to $8.3 million. Consolidated net sales in 1960 declined to $162.2 million from volume of $173.7 million in the previous year. The general recession in the nation's economy, plus record high imports of fabric and apparel, were the principal underlying factors affecting textile volume, and were felt most keenly in the last half of the year. Erwin noted that lowered demand for textile fabrics, along with a softening of prices, continue over into the current year.

DURHAM, N. C.—Net earnings for Erwin Mills Inc. were reported off at $325,866 on sales of $15.6 million for the three months ended December 31, 1960. This compares with profits of $436,413 on sales of $14.9 million for the same period in 1959.

JOANNA, S. C.—Joanna Cotton Mills here has let a contract to the Roberts Co., Sanford, N. C., for the modernization of 215 spinning frames, totalling 50,000 spindles. The contract calls for an expenditure of approximately $400,000 for the new FC drafting system. Five companies, including the Japanese, modernized 11 spinning frames each for Joanna in a test that ran for a year before the final agreement was made. Joanna is also entering the finished goods field for the first time with a combed fabric called Pimasel. Alfred Grant Inc. will represent Joanna for this cloth.

NEW YORK, N. Y.—Burlington Industries has reached an agreement with Nobilis, S.A. of Mexico City for joint operations in Mexico in the manufacture of carpets and rugs, according to Joseph L. Eastwick, chairman of James Lees & Sons Co., a subsidiary of Burlington, and Walter E. Greer Jr., president of Burlington International. The joint operation will be known as Nobilis-Lees, S.A. with headquarters in Mexico City. Technical advice and services will be furnished by Burlington through its subsidiary, James Lees & Sons. It is contemplated that sales and operations will be confined to Mexico and the development of the Mexican carpet market. Management of Nobilis-Lees will be under Rene Enriquez, who has been operating Nobilis in Mexico for several years.

SPARTANBURG, S. C.—A new $100,000 plant has been placed into operation here by the Deering Milliken Research Corp., enabling the company to manufacture its own chemicals. The facility, called the chemical engineering pilot plant, was designed to be adequate to manufacture sufficient chemicals for all of the research center requirements plus a surplus to be sold to other firms qualifying as licensees to handle Deering Milliken developed processes, the company reports. The plant, a prototype of a larger plant, is said to be more flexible in that changes in the various chemical reactors and machinery can be accomplished more readily and the control system of the reactors is highly detailed. The company points out that all interior fittings—pipes, electrical sockets, wires and telephones—are explosion proof.

GASTONIA, N. C.—A $350,000 expansion, expected to employ about 100 people, has been undertaken by the Clover (S. C.) Finishing Co., which started operations recently. The new plant will bleach, dye and finish yarns produced in the Clover spinning plant.

DANVILLE, VA. — Four college scholarships worth a maximum of $750 per year will be awarded by the Riverdan Benevolent Fund Inc. this year to children of employees of Dan River Mills. It was emphasized that the same rules will apply that have been in effect since the program was inaugurated. These limitations are made necessary because funds are derived solely from activities supported by Dan River Mills and Riverdan, it was reported. The four winners of the 1961 college scholarships will make 22 students who have found it possible to attend college by means of these scholarships.

HOLYOKE, MASS.—Indian Head Mills has formally acquired William Skinner & Sons here, according to James E. Robison, Indian Head president. This is the tenth acquisition since the company was formed in 1953, and the fifth textile business acquired in the past 12 months, according to Robison. "With the addition of William Skinner & Sons, and a full year's operation of the four companies acquired in 1960, sales of Indian Head should reach approximately $100 million annually," he added. Indian Head has reported sales of $82 million for 1960, up 45% from $56 million in 1959. The companies purchased in 1960 were: Hoosac Mills, USF-Arnold Finishing Co., The Bernhard Ulmann Co. and Bachmann Uxbridge Worsted Co. Indian Head's fiscal year ended December 3, 1960. A cash offer of undisclosed amount was made to the Skinner shareholders on January 26. Indian Head plans to maintain the identity of the business as William Skinner & Sons, and the 400 employees of the Skinner mill at Holyoke have been advised that operations will be continued substantially as before.

NEW YORK, N. Y.—Collins & Aikman Corp.'s net earnings for nine months ending November 28, 1960 were $876,004 compared with $944,549 in 1959. An anticipated rise in fourth quarter earnings should put fiscal year earnings at approximately the same level as in the same period of 1959—$1.4 million. Ellis Leach, president of the corporation, expects sales to approach $66 million against $48.9 million in 1959. Leach stated that he was getting quite optimistic over the outlook for the next fiscal year. He also reported that one company is actively being considered as an acquisition. Negotiations should reach some kind of conclusion within 90 days, he said.

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Textile Industry Schedule

For additional data (reservation requirements, membership requirements, program details, etc.) on activities listed here, contact name(s) shown in parentheses.

Mar. 16-17 (Th-F)—Textile Engineering Conference, American Society Of Mechanical Engineers, Clemson College, Clemson, S. C. (Chairman: Prof. E. B. Grover, School of Textiles, N. C. State College, Raleigh, N. C.)

Mar. 23-24 (Th-F)—Spring meeting, Textile Quality Control Association, Hotel Charlotte, Charlotte, N. C. (Secretary: Werner Pels, National Cotton Council, 1200 18th St., N.W., Room 502, Ring Bldg., Washington 6, D. C.)

Mar. 23-25 (Th-Sa)—Annual meeting, American Cotton Manufacturers Institute, Fontainebleau Hotel, Miami Beach, Fla. (A.C.M.I., 1501 Johnston Bldg., Charlotte, N. C.)

Apr. 6 (Th)—Spring meeting, Piedmont Division, Southern Textile Association, Johnston Memorial Y.M.C.A., 3025 N. Davidson St., Charlotte, N. C. (Chairman: J. W. Inscoe, Carolina Mills Inc., Maiden, N. C.)

Apr. 10-13 (M-Th)—30th National Packaging Exposition, Lakefront Exposition Hall, Chicago, Ill. (American Management Assn., 1515 Broadway, New York 36, N. Y.)

Apr. 12-14 (W-F)—Annual meeting, Alabama Textile Manufacturers Association, Buena Vista Hotel, Biloxi, Miss. (Dwight M. Wilhelm, Exec. V-P, A.T.M.A., 125 S. McDonough St., Montgomery 4, Ala.)

Apr. 14 (F)—Spring meeting, South Carolina Division, Southern Textile Association, Clinton High School, Clinton, S. C. (Chairman: D. H. Roberts, Lydia Cotton Mills, Clinton, S. C.)

Apr. 16-18 (Su-Tu)—Spring meeting, Narrow Fabrics Institute, The Tides Inn, Irvington, Va. (Narrow Fabrics Institute, 11 W. 42nd St., New York 36, N. Y.)

Apr. 18-19 (Tu-W)—Spring meeting, Technical Advisory Committee and Board of Trustees, Institute of Textile Technology, Charlottesville, Va.

Apr. 22 (Sa)—Spring meeting, Georgia Textile Operating Executives, Hightower Building, Georgia Tech, Atlanta. (James L. Taylor, Director, A. French Textile School, Georgia Tech, Atlanta)

Apr. 26-29 (W-Sa)—Annual meeting, Georgia Textile Manufacturers Association, Hollywood Beach, Hollywood, Fla. (T. M. Forbes, Exec. V-P, G.T.M.A., Suite 740, 34 Peachtree St., N. W., Atlanta 3, Ga.)

Apr. 27-28 (Th-F)—Spring meeting, The Fiber Society, Georgia Center for Continuing Education, Athens, Ga. (Sec: Julian Jacobs, P. O. Box 405, Athens, Ga.)

Apr. 29 (Sa)—Spring meeting, Northern North Carolina-Virginia Division, Southern Textile Association, Cooleemee, N. C. (Chairman: Herman Cone Jr., Cone Mills Corp., Greensboro, N. C.)

April 29 (Sa)—Spring meeting, Alabama Textile Operating Executives, Thach Auditorium, Auburn University, Auburn, Ala. (Cleveland L. Adams, Auburn University, Auburn, Ala.)

May 4-5 (Th-F)—Thirteenth annual conference, Textile Industry Committee, American Institute of Electrical Engineers, Heart of Atlanta Motel, Atlanta, Ga. (Robert I. Uhl, Manager, Service Division, West Point Mfg. Co., Langdale, Ala.)

May 5-6 (F-Sa)—58th annual meeting, Phi Psi Fraternity, Shoreham Hotel, Washington, D. C. (A. Henry Thurston, 4515 Dexter St., N. W., Washington, D. C.)

May 10-12 (W-F)—Thirty-first annual North Carolina Statewide Industrial Conference, Jack Tar Hotel, Durham, N. C. (H. S. Baucom, Director, N. C. Industrial Commission, Raleigh, N. C.)

May 15-20 (M-Sa)—National Cotton Week, sponsored by the National Cotton Council.

June 22-24 (Th-Sa) — 53rd annual meeting, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C. (S.T.A., P. O. Box 1225, Charlotte 1, N. C.)

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Vol. 87 MARCH 1961 No. 3

textile bulletin

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Assistant Editor . . . . VICTOR EUGENE LOCKEY
Inquiry & Reader Service . . . . . . JACQUELINE BOYLES

TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Happy Birthday To Us

THE reproduction of a facsimile of our first issue back in March of 1911 (page 57) is our way of wishing ourselves a happy fiftieth birthday. We're mighty pleased to have been around that long, at the same time hoping we haven't aged any during the years.

Fifty years is a long time, especially if you've lived it. THE BULLETIN has, and its many bound volumes of back copies offer a multiude of memories. A scattering of them make up the facsimile. And for those who lived those days, it should be pointed out that we've taken considerable editorial license with the material you'll find in it. In a way that would make historians shudder, we have drawn from roughly the period 1911 to 1926 to bring to you a representative issue of that era.

For example, the child labor squabble, as reviewed by the late David Clark, didn't run its course in a few months time, as indicated by our treatment of it. It dragged on and on and on, as such things do, and we compacted it merely for the sake of clarity. So don't take it so literally as to be confused by it.

We hope you'll find enjoyment in turning back the pages with us. We're sure you'll be impressed with the stark comparison it draws between then and now.

Let's Knife Him Again

THE textile industry's hopes for a realistic reappraisal of its woes by the Kennedy Administration continue to ride the shuttle between dim and dismal. Hot and cold treatments within the last fortnight leave the industry slightly adled and as uncertain of its position as a shadow in the dark.

First came reports of a meeting of cabinet heads. Chairmaned by Secretary of Commerce Luther Hodges, this Interagency Committee held its first huddle on February 17. Discussions, it was later reported, revolved around cotton price supports and export subsidy levels for 1961. Hodges was quoted as saying he was "greatly encouraged" by the discussions, and that as far as he was concerned the industry had "not overstated its case."

Myer Feldman, an assistant to the President and White House liaison for the committee, pointed out that the committee was familiar with the industry's problems. "Now we want to talk about possible alternative solutions."

What followed within a few days was neither a solution nor an encouragement. Instead Secretary of Agriculture Orville Freeman looped another knot in the hobble with the announcement of increases in both support prices and export subsidies. The boost in support prices will jump the cost of cotton to domestic mills by from four to six cents. The export subsidy increase from 6 to $8\frac{1}{2}$ cents, effective August 1, will widen still further the advantage already held by foreign producers.

For an agency that "recognizes the industry's problems," that's a mighty poor start toward alleviating them. In all fairness, though, the committee warned that these areas would be the first to fall under discussion. In retrospect, that can now be rephrased to read, "Let's knife him again before we sew on him."

Or should that be "until we decide *if* we should sew on him"?

A Full Calendar Ahead

IF you're looking for ideas a likely place to find them in the next three months will be at any of a host of meetings being offered by various industry associations and societies.

Our "Textile Industry Schedule" on page 149 lists more than a dozen such events coming up between now and June. Their programs will range from the purely technical to the almost wholly social. But they share a common purpose—to help you and your plant work smarter. It'll pay you to look in on them—and take your associates with you.

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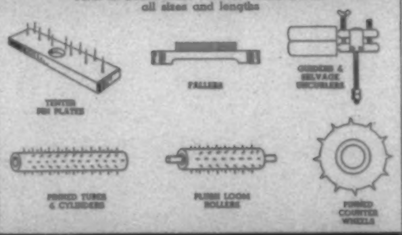

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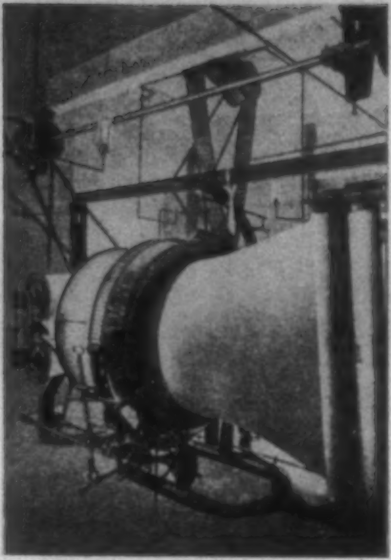
VOL. 87 MARCH 1961 NO. 3

This issue of TEXTILE BULLETIN . . .

. . . features

A Look At 50 Years Ago

In marking The Bulletin's Golden Anniversary, we offer (beginning on Page 57) a facsimile of our first issue, March 2, 1911. In it you'll find articles on a newly developed revolving loom; the South's fight against charges of child slavery in the mills; the future of the motor truck; a new vacuum cleaning system; and many other "signs of the times." 32 pages in all—plus some notes and anecdotes on the late David Clark, our founder and publisher. There's also a visit with "Aunt Becky."



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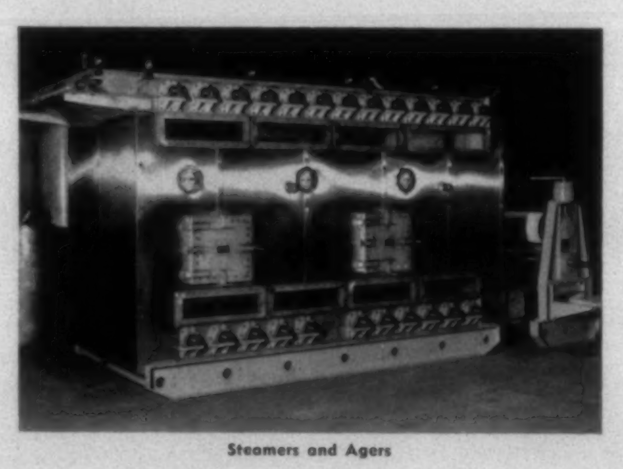

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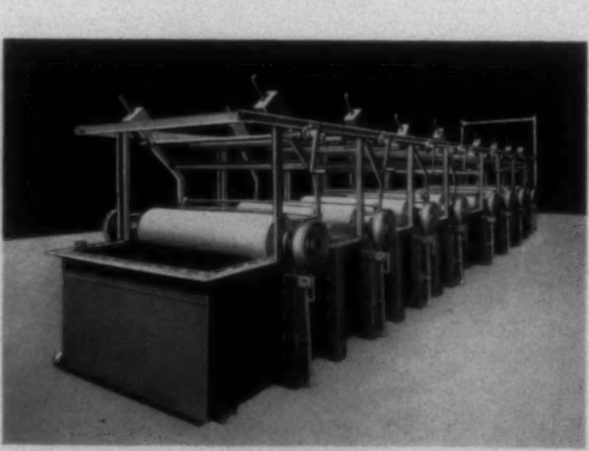

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